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90c*

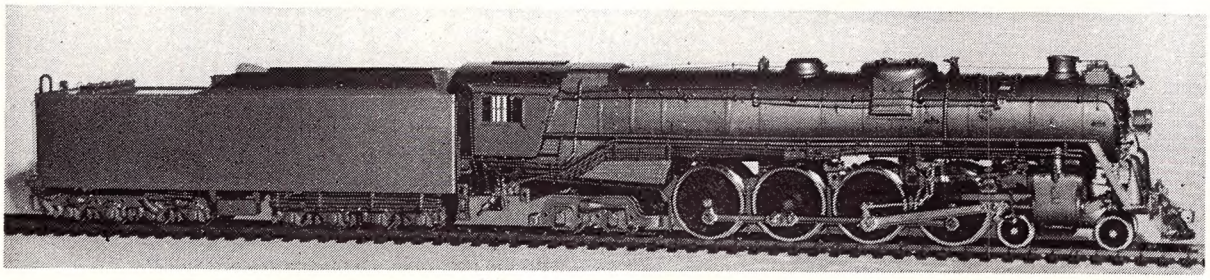
MODEL RAILWAY

Magazine

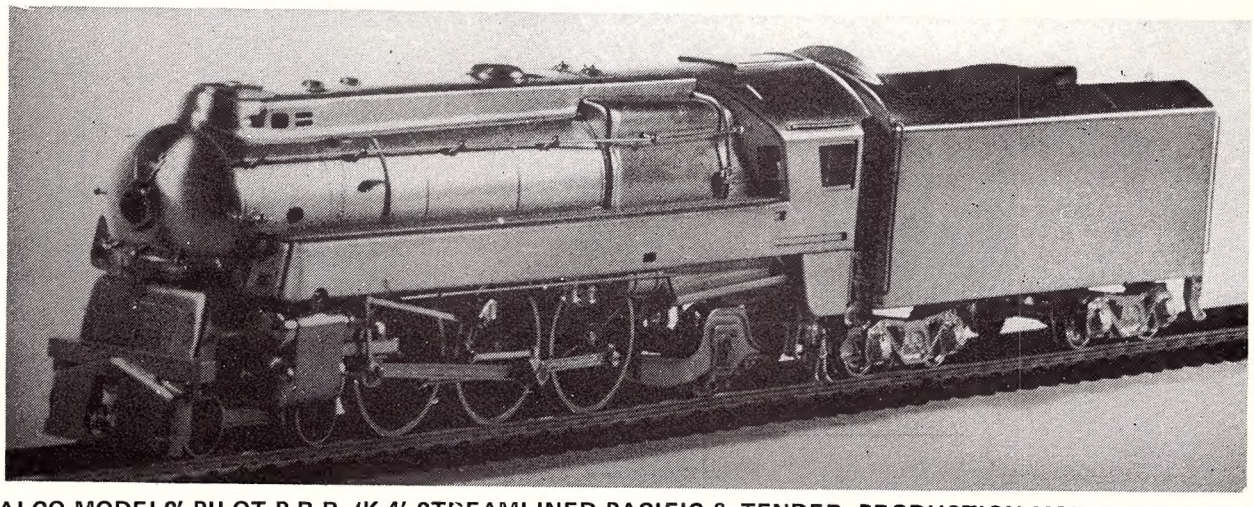
AMRM

Registered for posting as a periodical – Category B.
* Recommended retail price only.

NEW MOTIVE POWER IN HO SCALE
— NOW AVAILABLE FROM STOCK.....



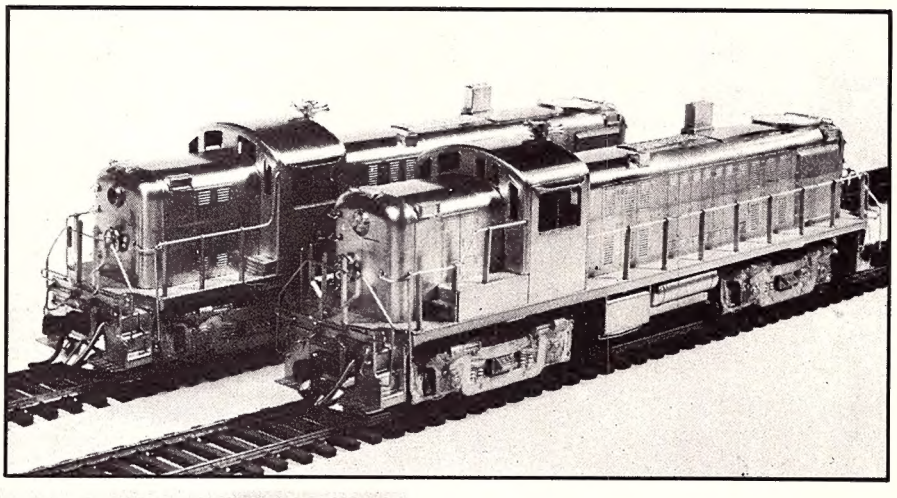
FROM THE SHOPS OF OVERLAND MODELS . . . . THE MIGHTY A.C.L. 'R-1' SERIES 4-8-4 LOCOMOTIVE AND TENDER. PRICE: $214.00

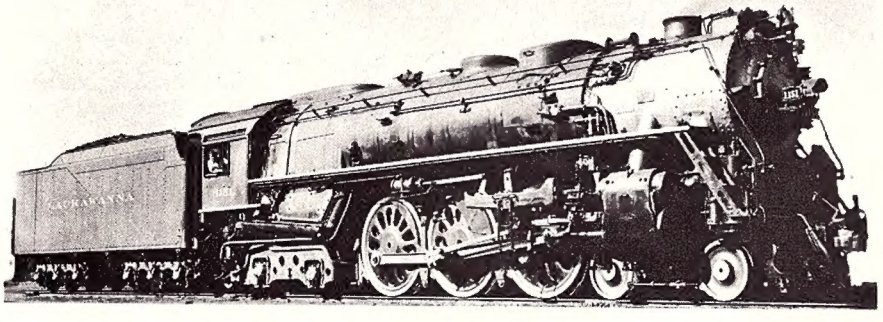


ALCO MODELS' PILOT P.R.R. 'K-4' STREAMLINED PACIFIC & TENDER. PRODUCTION MODEL DELIVERED PAINTED & FINISHED. PRICE: $490.00

AGAIN AVAILABLE IN A SHORT PRODUCTION RUN . . . . . ALCO MODELS' 'RS-2' AND 'RS-3' DIESEL LOCOMOTIVES. PRICE: $196.50 EACH.

LIMITED STOCKS OF 'RS-1' REMAIN @ $184.00 EACH, WHILST THE 'RS-4' IS SLATED TO COME LATER.





LACKAWANNA 4-6-4's . . . . . FROM THE SHOPS OF NICKEL PLATE PRODUCTS COME THE MIGHTY 'M-1' SERIES HUDSON LOCOMOTIVES. PAINTED AND FINISHED. PRICE: $463.00

Prototype photo

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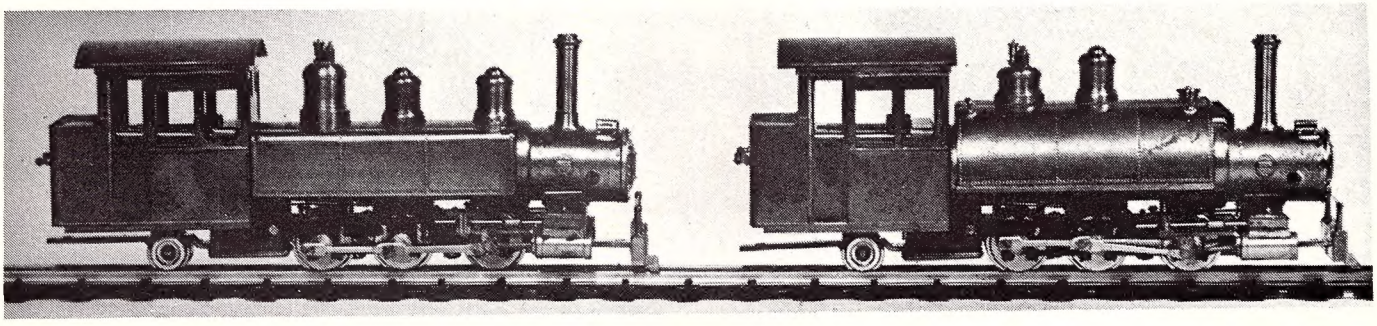
THE MODEL DOCKYARD PTY. LTD.

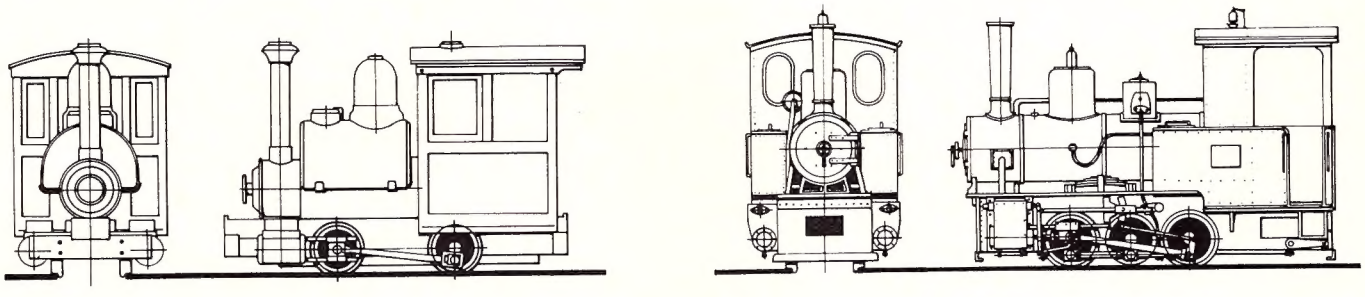
216-218 SWANSTON ST. MELBOURNE. PHONE: 663 3505

NEW IN HOn2½ GAUGE

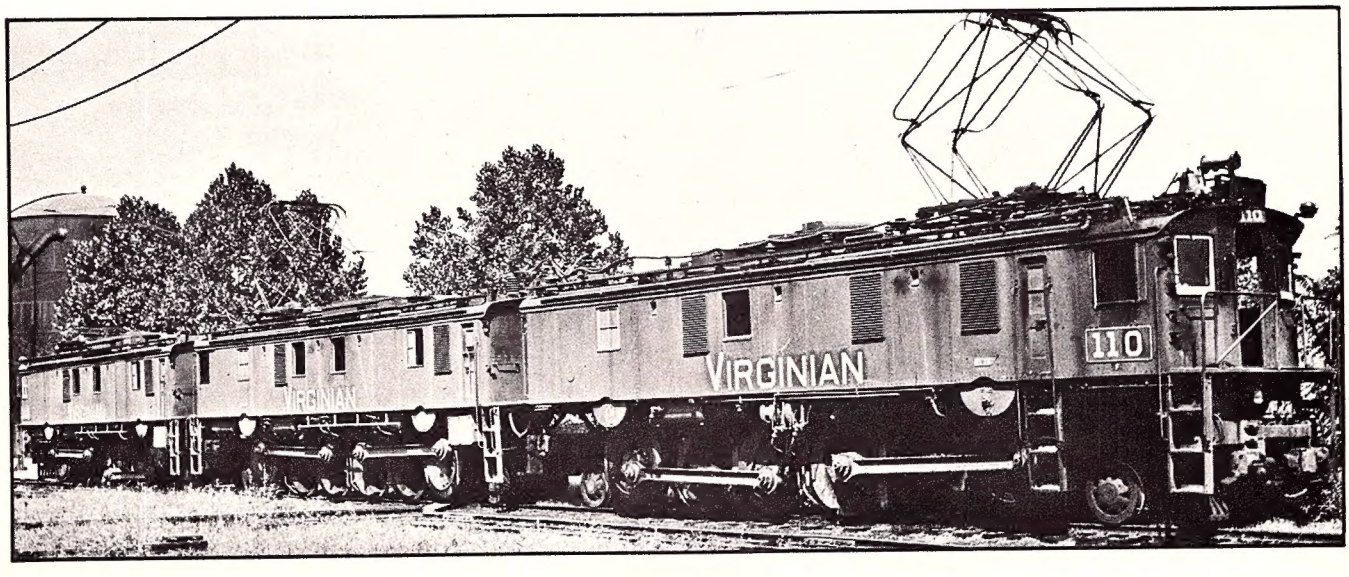
— FROM SANGO MODELS.....



MODELLERS WORKING IN H0n2½ GAUGE WILL WELCOME THE APPEARANCE OF THESE BRASS LOCOMOTIVES, PUT OUT IN SCREW-DRIVER ASSEMBLY KIT FORM. SHOWN ABOVE ARE THE OUTSIDE FRAME 0-6-2 SIDE AND SADDLE TANK LOCOMOTIVES WHICH COMPRISE THE FIRST ITEMS IN THE LINE @ $135.50 EACH. TO BE OFFERED IN THE SAME FORM WILL BE AN INSIDE FRAME MOGUL LOCO & TENDER. ALSO TO COME ARE PORTER 0-4-0 AND KOPPEL 0-6-0 TANK LOCOMOTIVES. THESE WILL REQUIRE CONSIDERABLY MORE WORK, AS THE KITS WILL COMPRISE LARGELY OF STAMPED PARTS, REQUIRING ASSEMBLY BY SOLDERING.



NEW IN HO SCALE ELECTRIC MOTIVE POWER.....



VIRGINIAN 1-B-B-1 + 1-B-B-1 + 1-B-B-1 3 UNIT ELECTRIC LOCOMOTIVE. VIEW SHOWS PROTOTYPE OF FORTHCOMING ALCO MODELS PRODUCT. ALL DRIVERS POWERED (3 MOTORS). PRICE: $395.00 COMPLETE. SEPARATE 'A' UNIT, $132.00 EACH.

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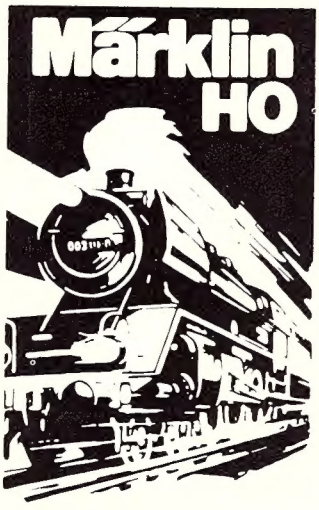

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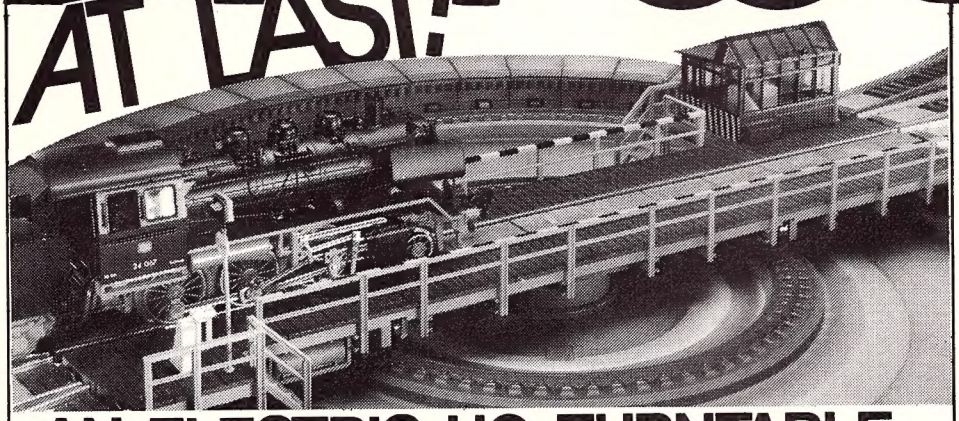

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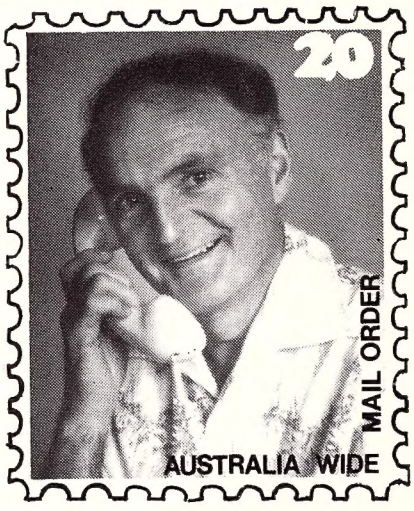
$112

Fleischmann's magnificent Turntable No. 6052 comes with 6 exit tracks and 4 blank pieces. Exit tracks can be clipped on and off and by using Extension Set No. 6053 a total of 48 exit tracks can be made up.
Turntable diameter: 465mm. Table length: 310mm.
Roundhouse to suit **No. 6475 . . . $35.90 Extension Set No. 6053 . . . $6.40**



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FLEISCHMAN

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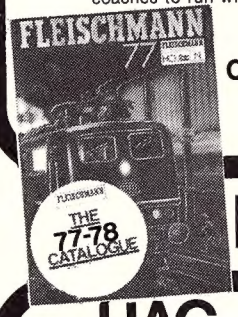
For release later this year:

HO No. 4094	Heavy Tank Loco 0-10-0	79.70
4203	Small diesel shunter	29.25
5019	Crane wagon — operates	11.00
5065	& 5067 3rd class coaches of former DR	12.95
6048	Max speed points with floating frog. Radius 738mm/204mm long manual	18.95
	electric	31.70
N gauge:		
No. 7094	Heavy tank loco 0-10-0	68.60
7368	Heavy Swedish Electric Loco — 5 axle with jack shaft	68.60
8065	& 8067 DR 3rd class coaches each	8.35
8170, 8171	& 8172 Swedish baggage and coaches to run with No. 7368 loco each	11.65



77-78 CATALOGUE
$2

MARKLIN

We carry full range of M (metal) and K (plastic) track, and a good range of locomotives and rolling stock including all the 1977 new items.
Starter Sets from $49.50 including controller.
Excellent Spare Parts and Repair Service available.
Write for our price on 3 rail Crocodile loco.
Send $1.50 for colour Catalogue and Price list.

NEWS FLASH for Marklin Fans . . . the fully Solid State Locomotion Controller for Marklin 3 rail systems available only from Bill Webb for $56.00 posted anywhere in Australia. This unit has full Inertia, Brake and shunt facilities, also separate swtich for direction and 24 volt reverse.

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Stockist of full range 2 rail Locomotives and the superb Electro-magnetic crane. Most steam locos have all metal bodies.
Write with S.A.E. 25c for colour brochure & price list.

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Smoke Generators

Bill Webb stocks a unit to suit most makes of Locomotives in HO, O & No. 1 gauges. There are also units for Houses, factories and ships. Special Units available for Fleischmann, Marklin, Hamo, Roco and Liliput PLUS Universal Units for most Locos with either metal or plastic bodies.
PRICE **$7.30**

Seuthe Accessories:—

1. HO-Fit Cleaning fluid for track, Locos & rolling stock
2. Ultra Adhesive Oil — will not spin off!
3. Pressure Pack Care & Cleaning Spray
4. 3-in-1 Track Maintenance Tool: Ripples, Files & Cleans HO, N & O track

For Brochure, send 25¢ stamp.

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NEW for 78

HAG HO 2Rail DC

Made by Craftsman, factory tested with lifelong guarantee.
These Swiss Prototype models now available:—

No. 131	Electric Shunter — Te101	$97.90
141	Ae 4/7 Old time Loco	172.00
161	Re 4/4" SBB Express Loco	157.00
181	Re 4/4 BLS Express & freight Loco on Simplon tunnel route	156.90
191	Bodensee-Toggenburg Self Propelled Coach	152.20
425)	Bodensee-Toggenburg Coaches	
430)	to run with No. 191 each	30.20
	Green & cream livery.	
455)	Blue & Cream Berne-Lotschberg-	
460)	Simplon Line Coaches to run with Loco No. 181 each	30.20

CATALOGUES Post Paid

Arnold	**$2.00**	**Marklin 3 Rail**	**1.50**
HAG	**.70**	**Peco HO**	**1.50**
Fleischmann	**$2.00**	**Peco N**	**1.50**
Hamo	**.25**	**Rivarossi**	**6.50**
Kibri	**1.40**	**Vollmer**	**1.25**
Locomotion	**.25**		

FLEISCHMANN

IN STOCK: HO. gauge

No. 4111	Black Tender Loco 0-4-0	$38.20
4227	Diesel Shunter. 3 axles with Jack shaft. Turquoise/beige	63.00
5475	"Eva" Tank wagon 4 wheel bogies	13.60
"N" gauge		
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Model Railways
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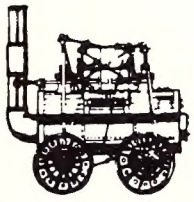

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Twinette control panel. This dual cab control enables 2 tracks to be controlled separately from the one control panel. Ideal for marshalling yards or main line operation. Finished in silver & black and measuring a mere 35mm deep it is an ideal matching companion to our MK3 control. Specify H.O. or N. systems when ordering.

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Order at your nearest LOCOMOTION DEALER.

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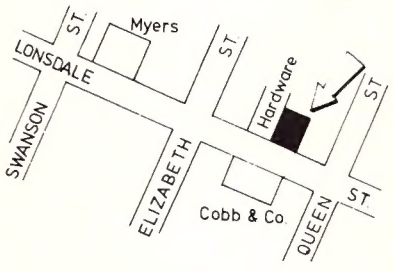

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5491	Turbotrain 1st class Coach	$ 8.75
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5494	Turbotrain Rear trailer	$13.75
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5082	SNCF DD 2nd class Coach	$10.75
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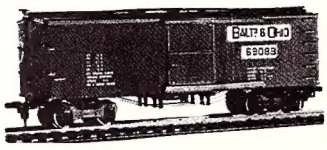
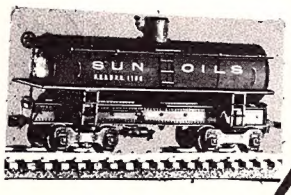


Gondola -$3.75



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50' Passenger Cars (Old Timers) -$7.25

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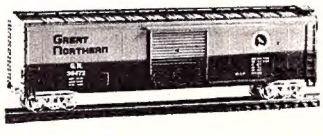

50' Box Cars -$4.50

3 in 1 Kits -$9.50

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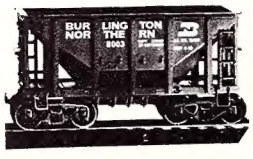

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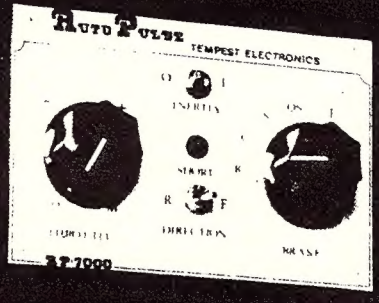

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Add a new dimension to your layout with this remarkable electronic controller. Drive your trains smoothly with speeds as slowly as ¼" in 30 seconds using throttle only (similar to rheostat) or . . . switch to "Inertia"; set the throttle and watch the train slowly build up to pre-set speed. Then bring it to a gradual stop or select from 3 other brake speeds.

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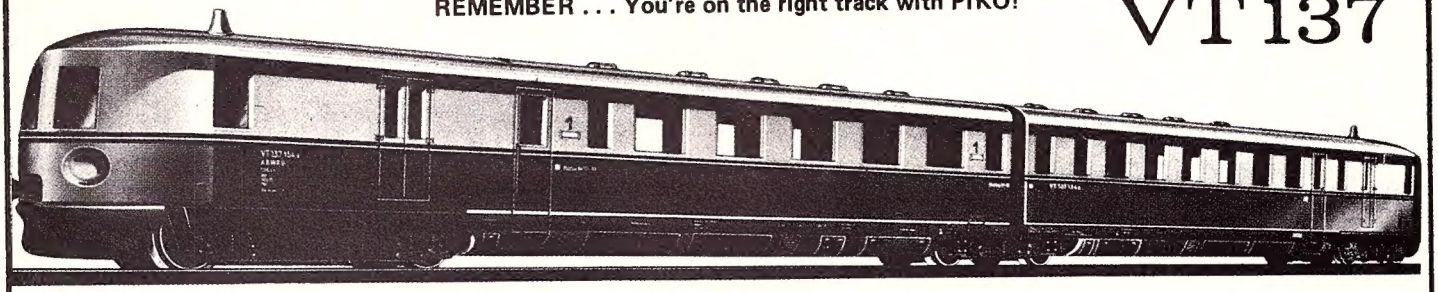
N
1:160 9mm

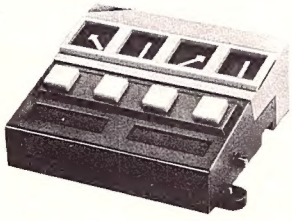
PIKO
MODELLBAHN

HO
1:87 16,5mm

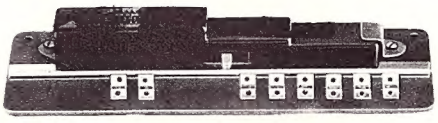
REMEMBER . . . You're on the right track with PIKO!

VT 137





399/51 switch block with acknowledgement



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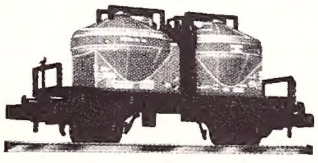

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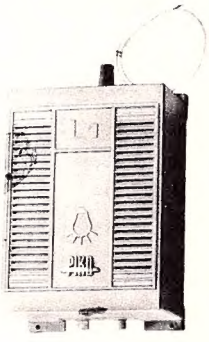

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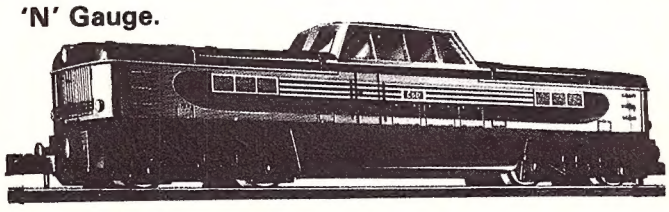

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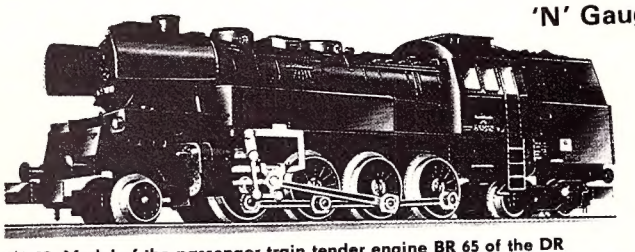

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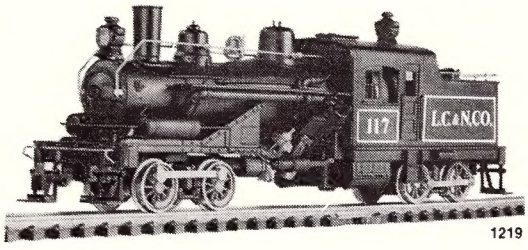

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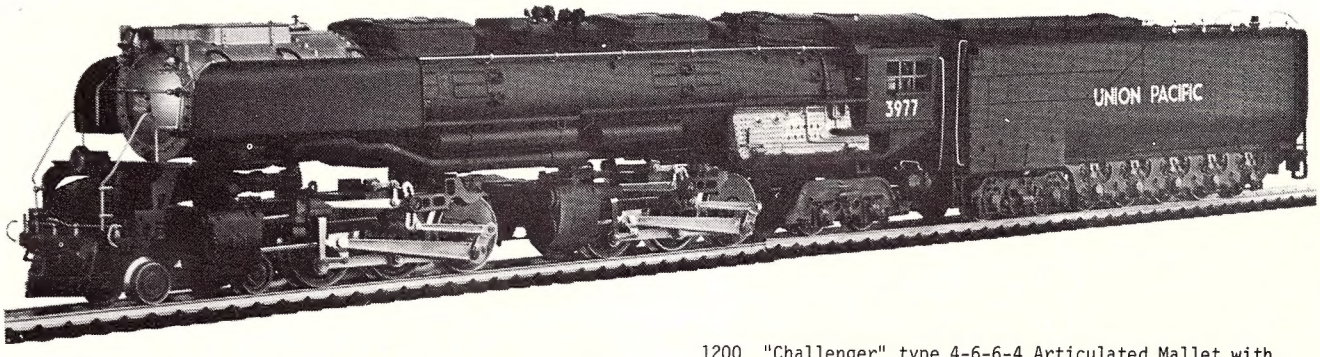

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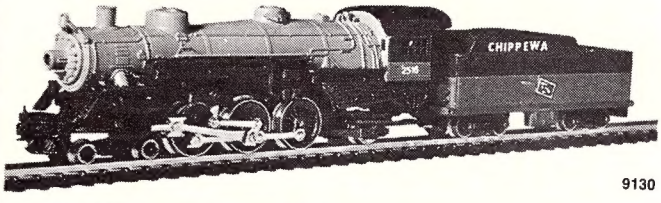

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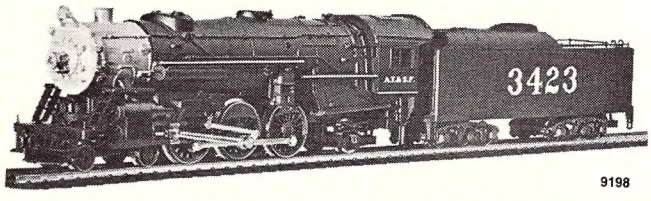

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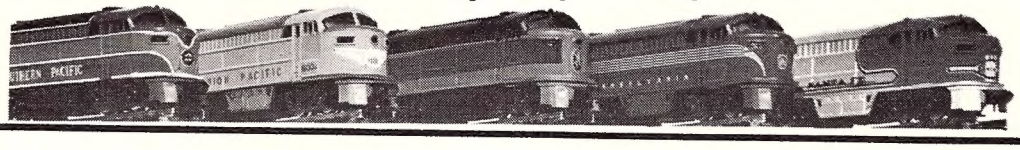

A.M.R.M.

July/August 1978
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COMMENT

We new modellers are spoilt. Ask the older modellers. They say we've never had it so good. Brass locos, accurate, well detailed coaches and rolling stock abound. Not like the old days when they had to scratchbuild everything.

Unfortunately the availability of imports has reduced the capacity of the "backyard" or cottage industry to the bread-line. The ability to progress has little incentive. The Australian prototype modeller thinks in terms of a ready-to-run import, a scratchbuild or modification. Rarely does a cast metal product spring to mind.

What can be achieved can be gauged by comparing Britain to ourselves. In Britain the first brass locos have only just been released and brass is mainly used in photo etching processes. The majority of locos are cast metal kits. This allows maximum weight with minimum cost yet with reasonable detailing. A much different story to the local scene with only two manufacturers using this technique.

Perhaps with the rising cost of manufacturing and import duties, a major rethink for the modeller may be necessary.

Anyway, the story is — use the home product wherever possible. Today's backyard industry may not be there tomorrow.

Roger Johnson

Eddie Garde's NSWGR 40 class poses for the photographer in the open country. The loco will soon be featured in a AMRM article. Photo by Eddie Garde.

ON THE COVER: For our cover this issue we cross the Tasman to New Zealand, where this beautifully restored 2-4-4-2 Mallet loco hauls trains on the Glenbrook Vintage Railway. The gauge is 3'6" and the photographer is Jack Parker.

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The little Mallett swings its cut of Cars onto the beautifully constructed Trestle. Mike Guest built the Trestle, Bridge and Loco complement each other on excellent mountain railroading at Prospect. Photo: Greg Archer.

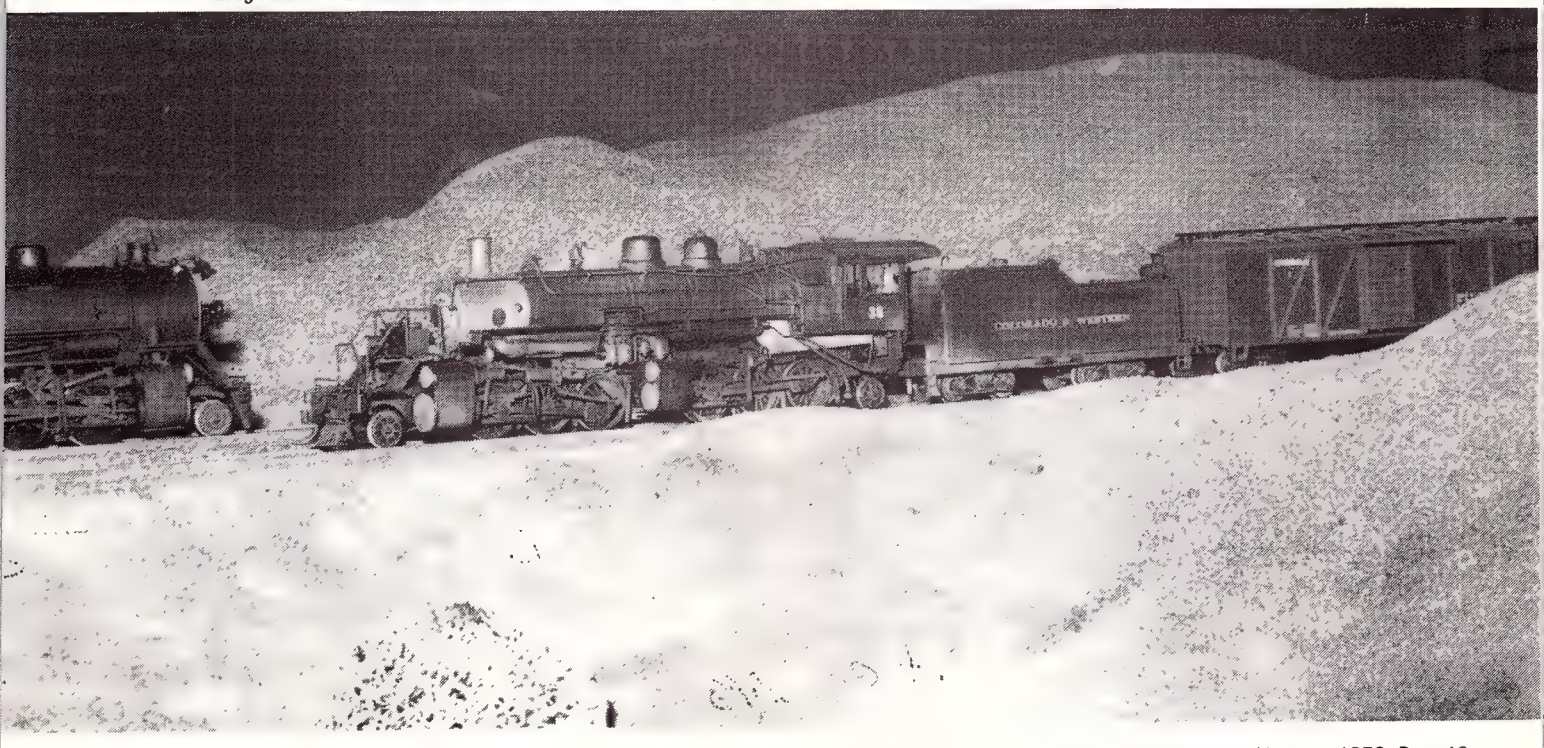
PROGRESS AT PROSPECT

Greg Archer describes some of the alterations to the Prospect Model Railway Club layout.

In July, 1968, 10 years ago, the first meeting of the Prospect Model Railway Club was held at Blacktown, a western suburb of Sydney. Attending were 8 foundation members and from that small start, membership grew and meetings were held in members homes until 1969. During that year, it was decided to commence a H0 Club layout and a garage of one of the members was offered for that purpose. With the layout now underway the members sought a more permanent club room, so during 1971 a site in St. Marys was obtained and plans drawn up for a 30' x 30' club house.

To finance this venture, a loan of $40 from each of the then 24 members was taken out, the idea being, that as funds became available the members would be repaid, also, during this year the first Exhibition was held in the Senior Citizen's Hall at Blacktown. Immediately after the Exhibition, work commenced on the club house and all concreting and building was carried out by the members. After 5 months of weekend work, the clubhouse was built and during March 1972, the first and rather proud

Greg Archer's 2-6-6-2 Mallett heads a local Sierra Freight out of the Cutting and on to the Trestle. Photo: Greg Archer.



Private road names are evident at times on the Club layout, as Greg Archer's Colorado and Western Mikado, sits under Prospect's Coaling Stage. Loco is a Hallmark Import Katy 2-8-2. Photo by Greg Archer.

Timber Mill for Logging operation from the Camp to the Mill. Logging Cars are switched thru 3 separate trains. Timber Mill scratched built by Phil (Snoopy) McDonnell.

Logging Camp high in the Mountains. Shay's set out from here and work their way down the spiral to the Timber Mill off Prospect Yard.

Scene shows old and new sections of the layout, new work is Mountain section under construction. A helper service will be provided for the 2½% grade, with possible Catanary to provide separate control of both loco's.

Phil (Snoopy) McDonnell UP Turbine slips down the ramp ahead of SP Black Widow's. Both are headed for Passenger duties, Turbine on the Overland and the Widow's of the Shasta Daylight. Photo: Greg Archer.

Prospect Yard and Freight House set the scene for a 2-8-0 and Caboose. Both awaiting assignment on a Short Freight. Photo: Greg Archer.

meeting was held under the club's own roof.

The layout was then moved in and work recommenced on it. The design is 6 modular sections so that it can be easily moved and utilised in Exhibitions. The track plan is basically a double track oval with passing loops with a branch line running from the main yard to a logging town and camp, 5 cabs and a C.T.C. provide 6 operators with plenty of work on time table running nights. This layout is now in its 8th year of operation and has had contunual updating over the years and has a 24' x 8' section in the centre.

During the Queen's Birthday Weekend in 1973, the second Exhibition was held in the Civic Centre, Blacktown and was an overwhelming success, in as much as all monies borrowed from the members was repaid in full.

During 1975 it was decided to take the ultimate Model Railway trip . . . and fill the large club house with a layout equal to the

Bob Payk's Two Truck Shay pushes a cut of Cars into the Logging Camp. Both Shay's are a United Import. Photo: Greg Archer.

65 m.p.h. flat out Turbine and slave GP9 thunder into the open and the Valley section prepares to accept the rare sight of a Big Blow in command of the Overland Limited.

equipment owned by the members. So plans were considered for a permanent extension to the club layout with the following provisions 1) that it must connect to the existing layout, 2) have no smaller than number 6 points, 3) take at least 10' length trains in yards and passing loops, 4) incorporate a large division yard and passenger terminal. Plans were submitted, thrown out, and resubmitted, and after much debate one was accepted and work commenced and has been progressing at a steady pace since that date. As of now, the walls have been lined and painted blue ready for a backdrop, benchwork and roadbed has been completed and all track work in the passenger terminal and division yard has been layed including 75% of all main line trackage, leaving only the Port yard and loop over the mountains to be layed.

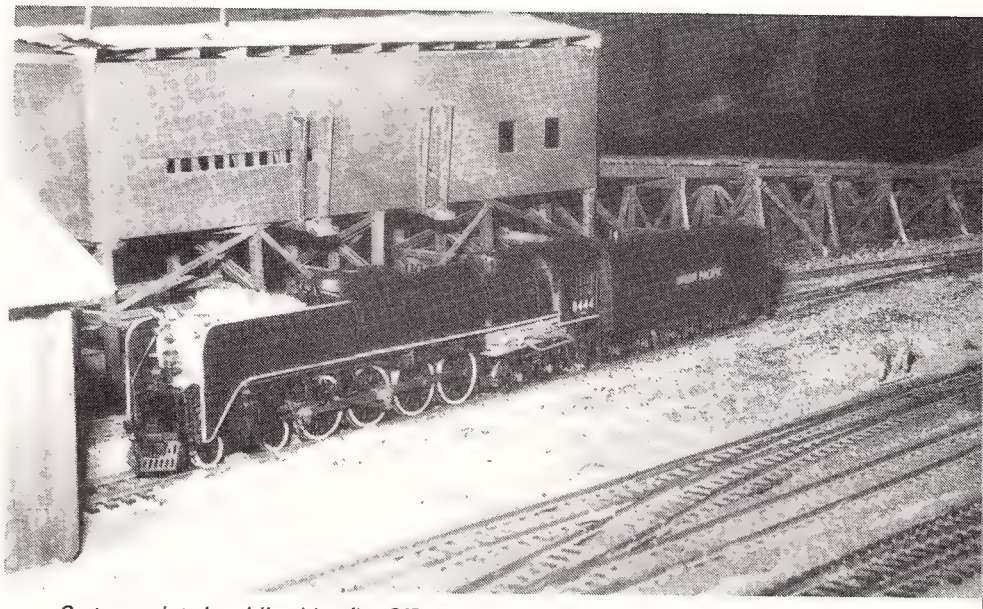
The design of the layout allows trains of 12' in length to be run and sided and placed in yards in full. Also, 10 coach passenger trains double headed and 20 car freights double headed will be normal practice. It has also been decided that an elevated platform, which will contain the dispatcher C.T.C. and 3 main line operators, be built with a full intercom system to each cab position. All yard and mountain division cabs are to be onsite, also a helper service will be employed on the 2½% mountain grades.

Bridges are well under way and will be a highlight of the new sections, comprising a 240' cantilever, a 300' curved trestle and a 430' suspension, all double tracked. A minimum radius of 3' will be ample to accomodate one of the finest collections of brass locos in the State, anything from a 20 ton Shay to the magnificent 'Big Blow' Union Pacific gas turbines.

At this stage it may be well to mention the Club owns no rolling stock or locos of its own. All locos and equipment are owned by individual members and on running night, gear arrives in boxes and carrying containers which in some cases, are a work of art in themselves.

Such full length trains represented are the S.P. Daylight, Broadway Limited, Auto Train, just to mention a few. However, with all this talk of brass, this does not mean that other types of motive power is not used on the layout, Athearn, Rivarossi, AHM, Roundhouse, etc. are all well represented on running nights.

The Club also has social outings for members and their families, such as Theatre Parties, Picnics, Film nights and a family Christmas party. Also visits to members' private homes are arranged from time to time.



Custom painted and lined by Jim O'Byrne of Dallas, Texas, Union Pacific 8444 awaits her turn on the Yellow and Red Fan Trip Coaches. Photo: Greg Archer.

Meetings are held on the second and fourth Saturday of each month and alternate Friday nights at 8.00 p.m., at the club house, also free nights are provided for the members to test and run their equipment.

Over the years the club has had a turnover of members, in as much as only one foundation member remains, and no amount of prising will remove him from the club register, sorry Bob . . . . also during this past year we have had the pleasure of our first female member, welcome Debbie, we think a feminine touch to the hobby is well overdue.

We are by no means a closed club. Visitors and prospective new members are most welcome. Nobody will ask you to join until such times as a visitor is quite sure that what the club has to offer is completely to his or her liking. All we ask is that on your first visit, you give a member a call to arrange a suitable night, from then on it is up to you. Locos and rolling stock mainly follow U.S. Prototype.

And so as the club heads into its 10th year of operation, things keep moving in the right direction, future plans being, to replace the old layout to match operation of the new extensions. However, this will not commence until such times as the new sections are fully operationable. Freight rolling stock is being sought to stock the large yards, to save setting up time of running nights. Finance has also been allocated for a library of quality books for the reference of members etc.

So fellow railroaders our books are open for new members, come along and help run the big trains at Prospect. There is a small joining fee and nominal yearly subscription. Finance comes from Exhibitions, of which we have had six and all successful. Those with special talents in the field of wiring, scenery and track laying, will find plenty to keep them interested. Also those who are new to the hobby or have not yet tried their hand at such aspects of modelling will also be welcome to come along and learn from what we are trying to achieve. Your reward will be the companionship and enjoyment of others in a club that keeps progressing in the right direction in this great hobby.

See you at Prospect.

BRASS TREES

Most modellers are aware of the existance of well detailed, desirable but expensive brass locos., but how many have ever thought of brass H.O. scale trees. A member of Melbourne's "Northern Model Railway Society", Lindsay East has. Faced with the need to make some Palm trees he hit on the idea of cutting the branches out of shim brass. The results can be seen in the photograph. The trunk is carved from wood and each branch is pushed through holes in an old pepper shaker top and soldered. The top and branches are then glued to the trunk. The tufts of grass visible at the base of the smaller Palm tree are the bristles rescued from old (and sometimes not-so-old) scrubbing brushes. Some of Lindsay's N scale scenery efforts will have been seen by people visiting the Melbourne and Sydney AMRA exhibitions in 1977 where the NMRS N gauge "Wallen" layout was on display.

Ray Batty

N.S.W.P.T.C. 421 Class Diesel Electric Locomotive

42109 at South Greata on an ARHS tour. Compare with the photo of 42106 and note the staggered exhausts. Howard Smith photo.

42106 at No. 9 platform, Sydney Terminal. Howard Smith photo.

When Clyde Engineering received the licence to make General Motors diesel locomotives in Australia during the 1950s, the high horsepower prime movers of today were not available. Generally, the engines available for main line operations were of 895, 1120 and 1305kW net output. These were employed in various combinations of prime movers and body types to produce suitable locomotive designs for the North American market.

The GM passenger locomotives of the later "E" series used twin 895kW engines for their power source; the GM freight locomotives of the later "F" series used single engines of either 1120 or 1305kW rated net output for their operations. When the New South Wales Government Railways commenced studies of possible main line diesel power, they looked to a single engined unit in the 1120 – 1305kW net power range. Thus, the 42 class locomotives, dealt with by the A.M.R.M. issue for May/June 1976, were an Australian produced hybrid of the North American E.8 and F.9 designs: the "E" series inspired the six wheel bogies (necessary, in any case, for effective New South Wales operations); the "F" series passed on the larger engine type.

A decade after the introduction of the N.S.W. 42 class, a modification of this design appeared in traffic: the 421 series. These locomotives were similar in styling to the older units but they had a full width cab at the No. 2 end, thus allowing bi-directional haulage movements. The 421 class, carrying road numbers 42101 – 42110, entered service between 22 December 1965 and 25 July 1966.

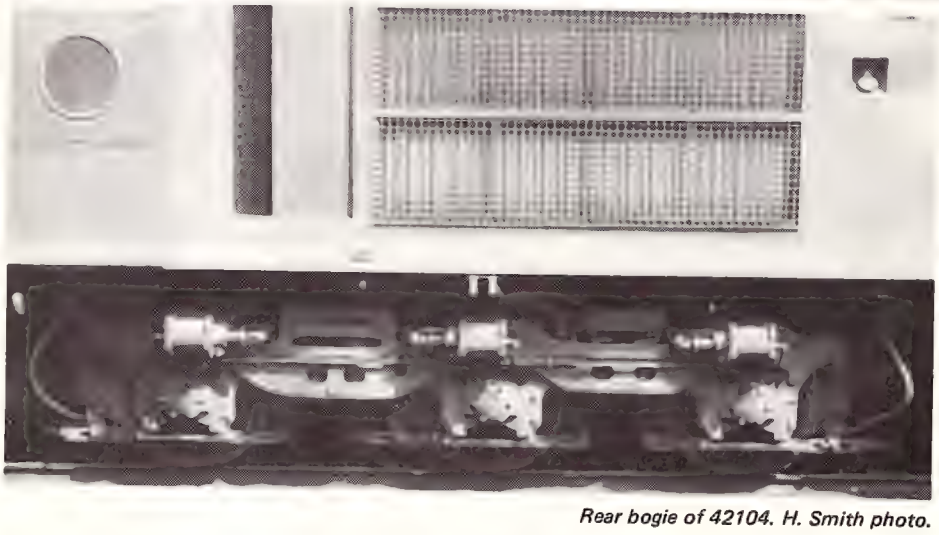
When constructed, the 42 class were given the Clyde-GM A.7 model number, a designation which was later changed to A16C type. Logically, the 421 class, being a deriviative of the original design, were given a modified model number: AJ16C. They are believed to be unique in the world in relation to their body styling; however, mechanically, they are similar to many series of GM locomotives, including the first batch of X class locomotives owned by the Victorian Railways.

Powered by a single EMD 567C series V16 engine, the 421 class locomotive develops 1455kW at 835 r.p.m., of which 1340kW is available for traction purposes. Allied to the prime mover is a EMD D32 generator which feeds six EMD D67 traction motors. Starting tractive effort is 32 960 kg (at 30% adhesion)

42101 at No. 3 platform Sydney Terminal. Howard Smith photo.

Side view of No. 2 end. Graham Ball photo.

42102 at Albury. Bob Gallagher photo.



Rear bogie of 42104. H. Smith photo.

or 21 975kg (at 20% adhesion). Continuous tractive effort is 32 190kg (at 29.3% adhesion at 11.1 km/h). Basic tonnage rating (maximum load and speed on a 2.5% grade) is 643 tonnes at 18.1 km/h., which compares with 734 tonnes at 14.5 km/h for the 42 class.

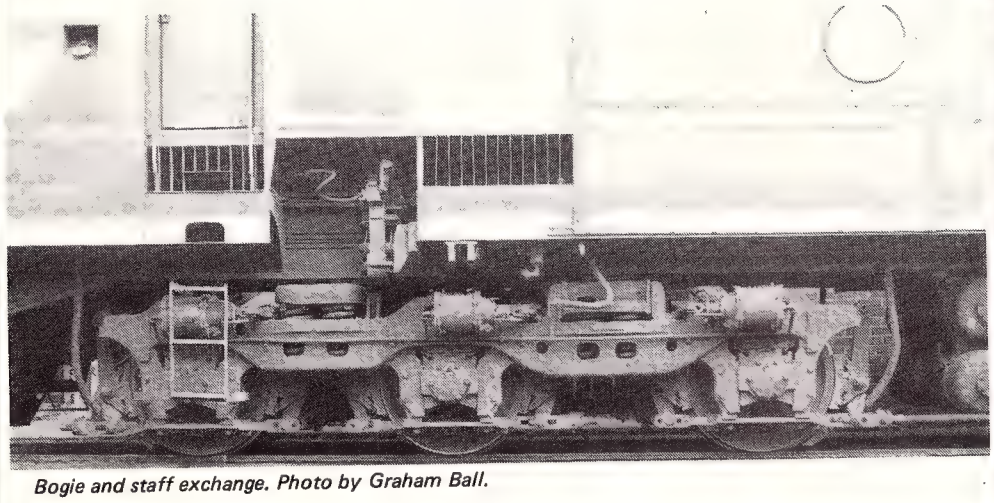
The 421 class is nominally massed at 110 tonnes and has wide route availability in the areas where it is employed. Generally, they are used on the PTC's Southern and Illawarra Divisions, owing to crew qualification and maintenance requirements. They have been based at Delec since their inception, except for a short period circa 1970 when some units were transferred to Bathurst for main Western line operations between Lithgow and Broken Hill/Dubbo. Their duties at Bathurst were taken over by 44 class locomotives. Today, on occasions, the 421 class can be seen, albeit rarely, on Short North workings to Broadmeadow and Newcastle.

The 421 class does not suffer from the lack of a proper rear cab, as does its early brother. Thus, they are usefully employed, irrespective of the direction in which the nose faces. They can operate in multiple with 42, 421, 422, 43, 44, 442 and 45 class main line units and 47, 48 and 49 class branch line units.

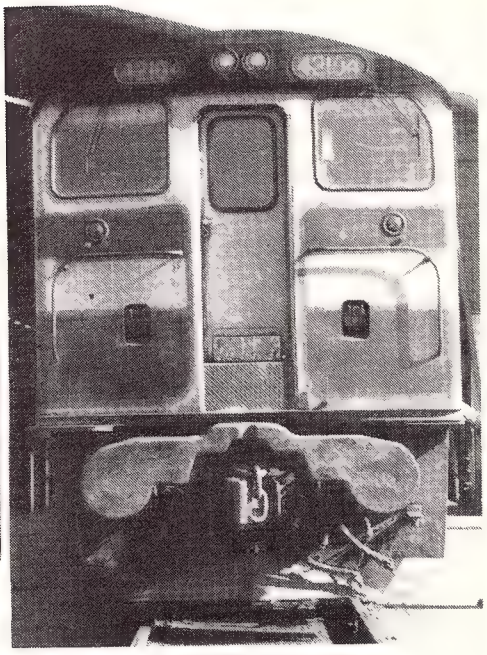
Compiled by Paul Rogers.

References:

1. An Australian Diesel Locomotive Pocketbook, by P.J. Clark
2. Modern Locomotives in Service on the New South Wales Railways (3rd edn — 1976), published by the PTC Archives
3. New South Wales Digest (various issues)
4. Dates into Service of N.S.W. Diesel Locomotives (PTC Archives)



Bogie and staff exchange. Photo by Graham Ball.



No. 2 end of 42104. Graham Ball photo.

"Yessir, Real Fishplates and All"

"And real fishplates too . . ." "That's right sir, they're on all the track hereabouts Sir . . ."

"Yessir, that's what all the visitors say — 'The closer you get, the better it looks!' and if you were my size you'd agree. Down here on the track it looks superb . . ."

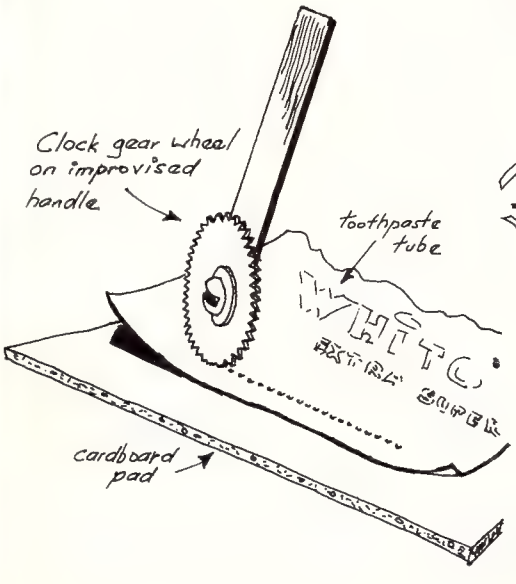
"Yes they're easily made Sir, and don't take long to install."

But mostly of course, if we were his size, we wouldn't fail to notice the absence of those chunky boltheads and fishplates on our layouts. And, next to the weeds, aren't they the most obvious thing we notice about prototype point-work? Or perhaps naked rail sides have become such an accepted part of our track that we have learned to take their absence for granted.

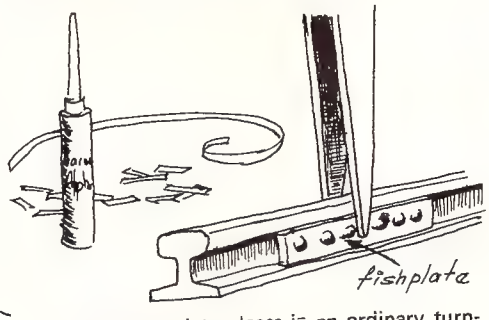
Boltheads and fishplates are there in great profusion, at every one of the many rail joints in every turnout, and yet they are seldom modelled.

Here is a way you can make them for your layout in one evening, to give your trackwork that noticeable edge in realism. And give you a visual kick every time you look at it.

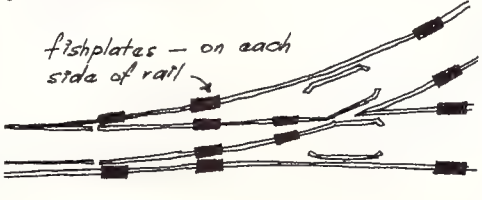
Fit a handle to a clock gear wheel and push it across a piece of flattened toothpaste tube on a soft pad of cardboard. You have now produced a line of boltheads on the other side. Pick a gear wheel that has fairly sharp teeth to make a clear impression.



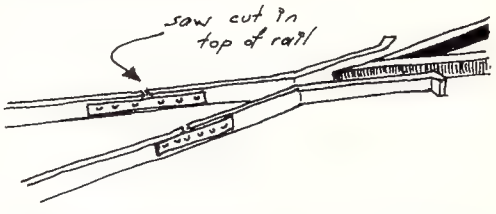
Cut closely along either side of the dimples to produce a continuous strip of boltheads. Cut into short lengths at every sixth bolt and glue to the sides of the rail with Super-Glue or similar alpha cyanocrylate cement.



The appropriate places in an ordinary turnout are shown below.



Saw a fine groove across the rail head at the centre of each fishplate to complete the picture of realistic rail joints.



If that makes your plain track look austere, then glue fishplates to them about every 15 sleepers — or further apart if you are modelling anything after the 1920's.

Ross Hurley

We always think every other man's job is easier than our own. And the better he does it, the easier it looks.

The advertising deadline for the September/ October 1978 issue is the 25.8.78. Please be early.

N.S.W. 421 CONVERSION

Howard Smith describes the conversion of a NSWPTC 421 class diesel electric from a Rivarossi E9.

The technique I am about to describe applies equally well to those who model V.R. and A.N.R.

Cut the body shell to the correct length, as measured along the roof. Now cut up immediately behind the front side doors and then cut along the top edge of both sides. Figure 1 shows the cut lines to use. A razor saw held at a low angle is best for this job as it gives a much straighter cut than a small fret saw.

Cut away the two raised rectangular sections on the roof and cut out the central fan. The fan can be kept as a pattern for a mould, from which copies can be produced and used on models of earlier E.M.D. products sold in Australia. The holes left are plugged with carefully cut pieces of styrene sheet and when set in place are filed back to the original roof profile. The remaining fans are then filed down to roof level and the rear of the roof can be filed to the correct shape as shown in the plan view of the loco drawings. The remainder of the roof detail is fitted later.

The sides and ends are made by laminating two sheets of styrene of different thickness together. The outer sheet is thin (0.25 mm) and can be cut accurately to size easier than thicker sheets. The inner sheet is 1.5 mm thick and provides the strength for the sides. After transferring the side details from the drawing to the 0.25 mm sheet using carbon paper and a sharp 5H pencil, the sides can be cut out complete with any openings. Don't forget to mark on the positions of all the side strips as these are glued on later. Transfer the details again, this time onto the 1.5 mm sheet. Cut the porthole openings square and oversize in this thicker sheet and cut the grill openings 0.5 mm larger on all sides. This allows any window glazing or wire mesh to be attached from behind and allows it to sit very close to the outside skin.

The strips on the side panels are of 0.25 mm sheet cut into 0.5 mm widths and glued in place with a solvent such as Methyl Ethyl Keytone (MEK), which leaves no residue after it has dried.

The mesh I used was from the bottoms of brass tea strainers I bought at a large chain store. It was cut to fit behind the opening and then held in place by glueing it to a backing piece of styrene and then glueing in the assembly.

The vertical louvre grill was made from 0.5 mm wide strips of 0.25 mm sheet glued on their edge to a backing piece that had been marked out before fitting.

To cut the detail for the side portholes I used a pair of springbow dividers. The dividers are set to the larger diameter and spun on the styrene sheet until a groove is cut to half the thickness of the outer skin. Set the dividers to the smaller diameter and this time cut right through. This operation leaves a neat hole and a good representation of the rubber sealing ring featured on the prototype.

Cut out one of the side doors from the discarded side panels and use it for the rear side door on the right hand side.

When laminating the sides I left the thick sheets uncut except for openings. This reduces any tendency to buckle when the adhesive (MEK) has dried. Keep the newly laminated sheets under weights for a few days to further keep them flat.

The rear of the loco is possibly the most difficult section to make as it has compound bends in the panels. First, I cut out the rear shape from the drawing in 0.5 mm styrene. I then made up the inner shell from the 1.5 mm styrene. This was made up from a number of separate pieces cut and glued at the correct angles to give the compound shape we require. These pieces consist of a vertical on either side of the door, the door and the piece under each rear window. An additional gusset is glued across the bottom to hold the shell rigid. When the outer skin is being glued over the shell it can be gradually pushed down to conform to the compound shape.

The sides can now be cut and filed to size and glued to the roof/nose assembly. Next the rear can be glued in place taking care not to damage the window framing as it has no backing and will soften under the effect of the glue. Don't try to fit any glazing at this stage, as the model is easier to paint without it in position. The fit of the new sides and rear is critical if a strong joint is to be obtained, as the solvent type adhesives have very little gap filling ability.

When the sides and rear are set in place, the rest of the roof detail can be added. The rear roof grill is made by glueing the brass mesh over 1.5 mm styrene sheet with epoxy glue and when this has set, glueing the outer framing in place. This is cut from a single piece of 0.25 mm styrene sheet and care should be taken when bending the sides over to fit down against the roof, as styrene this thin tends to crack when it has glue on it while it is being bent.

The exhausts are made from short lengths cut from aluminium tube of suitable diameter (3 mm or 1/8") glued with epoxy to panels of 0.25 mm styrene.

The forward fan housing is an epoxy copy of a fan from an American FP-45. I used a gelatine-rubber moulding compound which I poured into a small plastic dam built around the fan being copied. Brass mesh is glued with epoxy to the casting and the assembly set aside to cure. The roof has to be cut to fit in the flat panel for the fan to sit down on to. After removing the section of roof, cut a piece piece of 1.5 mm styrene sheet to size and glue in place. This peice should sit up slightly above the sides so that the two small side pieces can be glued in flush. Glue the fan assembly to the roof with epoxy adhesive and allow to set.

All handrails were made using the method described in a previous issue of A.M.R.M. I glued them in place using one of the 'super' glues.

The chassis is shortened by removing the appropriate amount of material from the fuel tank area. The Rivorossi model has the advantage of having the motor mounted over the rear bogie and so the chassis can be shortened without having to worry about altering the mechanicals.

The fuel tank is completely removed and the new one built from 1.5 mm styrene sheet. Care must be taken to allow enough room for the bogies to swing when the air receivers are in place. The front air receiver was built from a length of lead pencil with the rounded ends built up from 'Plastibond' and filed to shape. The front central part of this air receiver was then cut away to allow the bogie to swing. The two rear air receivers were made from 3/16" aluminium tube, again using 'Plastibond' to form the ends. Styrene discs of 1 mm diameter were cut and glued to the centres of each end on the three air receivers and then were dirlled to take the brass wire used to represent the pipework. This brass wire goes up through the floor where it is glued for additional strength.

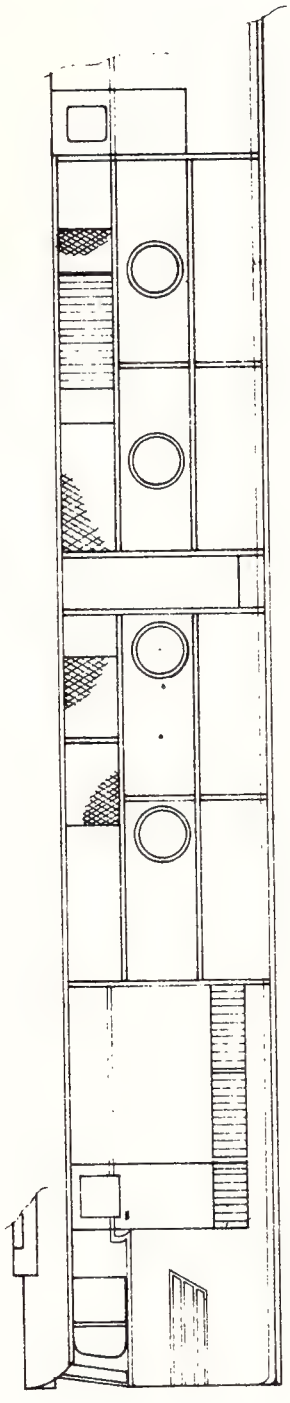
The couplers used are Kadee MK 16. These are the ones recommended in the Kadee catalogue and they have fairly long shanks which project past the N.S.W. buffing plates.

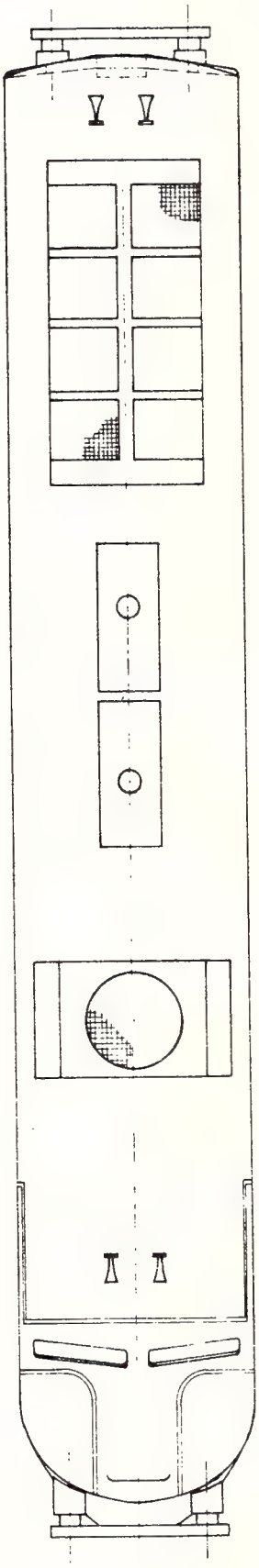
The bogie sides were modified by cutting away the spring details both on the side and where it hangs down between the wheels. This can be done carefully with a craft knife, but be sure not to cut off the wheel bearing details.

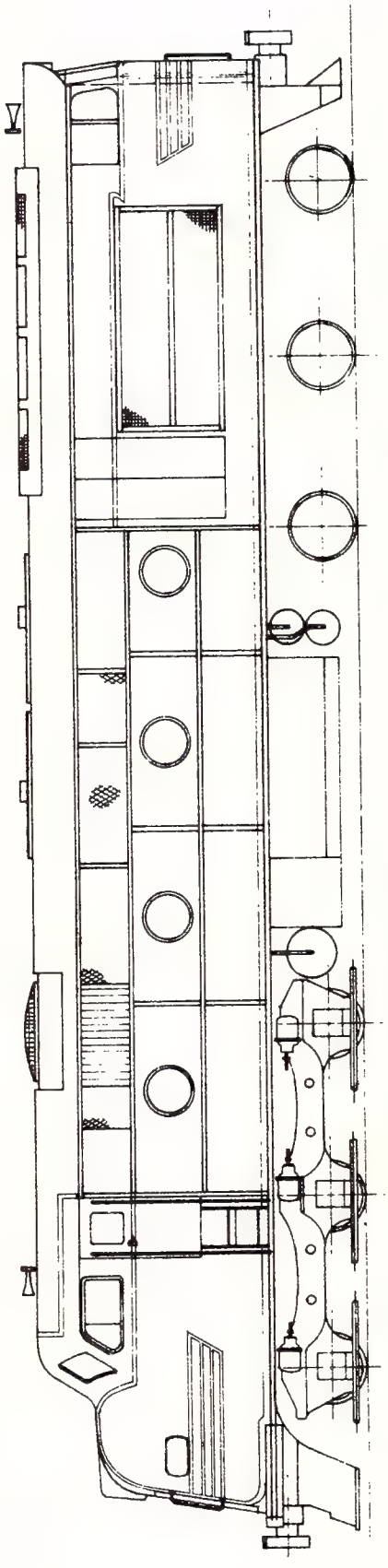
The new side frame shape was cut from 0.25 mm styrene and was notched to fit in against the end brake cylinders. Packing pieces of 0.25 mm styrene were cut to fit between the wheels and under the new side frames. These packing pieces were glued in place then their ends filed to a shallow chamfer before glueing the side frames over the top. The packing gives the 'bulge' between the wheels that the side frames exhibit on the prototype. A further improvement could be made by removing the brake cylinders cast on to the bogies and replacing them with three "Sentinal' brake cylinder castings. These are 'white metal' castings and would have to be attached with a 'super' glue.

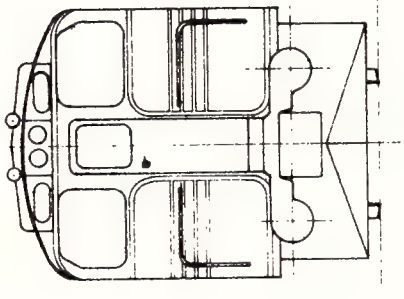
Painting the model was commenced by a coat of Signal Yellow which was then masked off to leave the front and rear whiskers and all the other yellow areas protected from the following coats. I used clear adhesive tape for my masking as I found it would sit down against the plastic and not let paint under the edge. I cut strips 1 mm wide with a straight

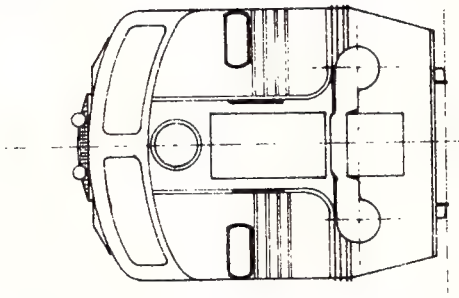
NOTE: Attention should be drawn to the fact that these diagrams are not an accurate scale drawing of a NSWPTC 421 class. The drawings have been 'adjusted' from scale to allow for the commercial locomotive, and some dimensions are a little over scale for accurate H0 scale.











N.S.W.P.T.C. 421 Class Diesel.
Drawn: Howard Smith.

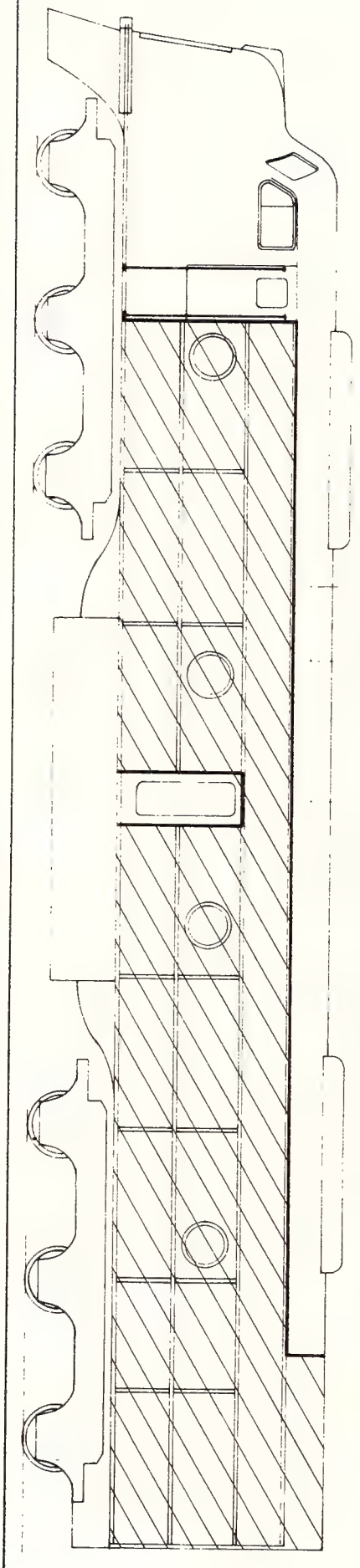
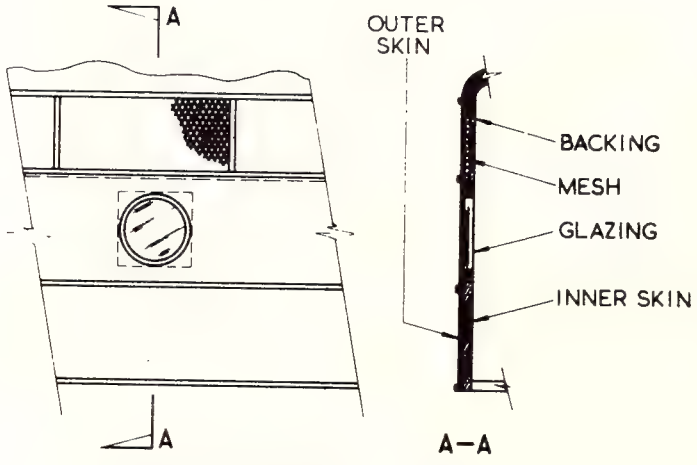


DIAGRAM SHOWING CUT LINES FOR 421 Class Diesel, USING EMD E-9

PLAN

ELEVATION

BOGIE MODIFICATIONS



SECTION THROUGH SIDE

edge and only used ones cut from the centre area of the tape, as the adhesive tends to have pulled away from the sides. These strips are applied to nose and rear end and the ends cut at the required angle and the surplus then removed.

The Tuscan Red (Berg's) is then applied and when dry, the front and rear whiskers masked around their edges and the Red lining then added. When the masking is removed you should have the front and rear yellow whiskers surrounded and separated with the Red just mentioned. The Red lining separating the Yellow and Tuscan Red is now applied with a fine good quality brush. Study the drawing and the prototype photos to make sure of the location of all the Red lining.

The side and rear numbers are of the dry transfer variety. Those on the side are from a sheet for the British Railways, and those at the rear are 'Letraset' Futura Demibold 6 pt. in white.

A protective coat of clear satin varnish is sprayed over the model and when this is dry the glazing for the side and rear windows can be glued in place.

The chassis weights will have to be modified to suit the modified chassis or new ones may be cast in lead if the modeller so wishes.

The front headlight insert is modified by cutting through the clear plastic just behind the front of the lens. The two surfaces are filed flat and any scratches polished out. Cut a disc of 0.25 mm styrene the same diameter as the lens and drill two holes in it side by side to represent the dual headlights on the prototype. This is a delicate job and you will probably discard a few before achieving a successful result. The disc is glued between the two clear pieces and the whole assembly clipped back into the front cabin.

As is evidenced by the photographs, I haven't yet fitted the air horns to the loco. This has been due to lack of a suitable horn being available in Sydney's model shops. Recently Keith Hudson's Modellers' World received a small shipment (two pkts.) of Nathan Air Horns in H0 scale by Detail Associates of the U.S.A. These were three chime assemblies and could be mounted separately as required on the 421. Keith is ordering a further shipment of detail parts for diesel locomotives which will be of great help to scratch builders and kit bashers in Australia.

The amount of detail the modeller applies to his model is entirely personal, particularly as the model is being built for their own pleasure. My model has many discrepancies and omissions when compared to the prototype, but it is still a reasonable representation of the real thing.

Finally, the drawings shown in this article are based on the outline of the E-8 and differ slightly from the prototype, particularly above the front coupler.

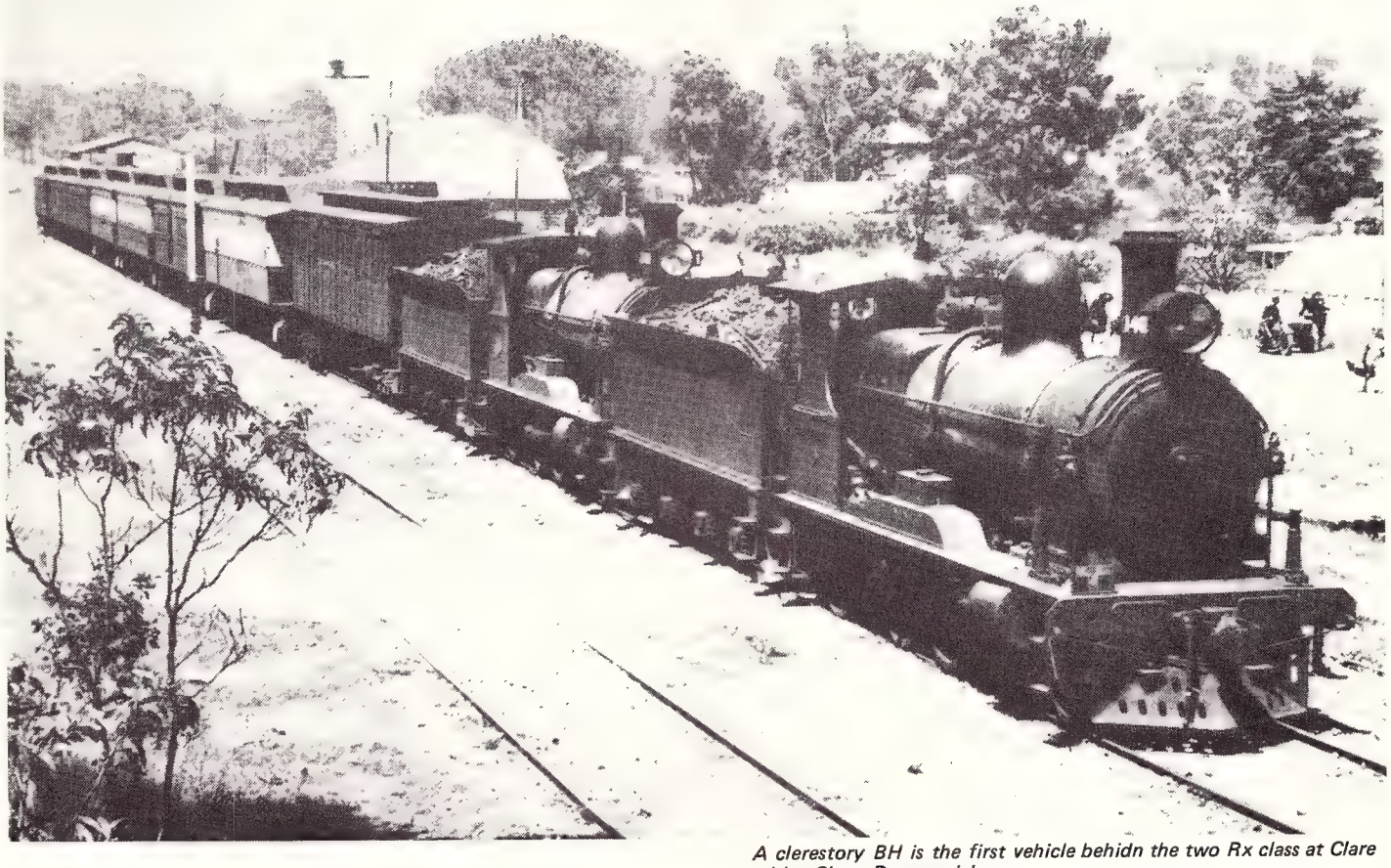
TRADE PRACTICES ACT 1974

The above act is now in force and contains strict regulations on advertising.

It is not possible for this company to ensure that advertisements which are published in this magazine comply with the Act and the responsibility must therefore be on the person, company or advertising agency submitting the advertisement for publication.

In case of doubt consult your lawyer.

S.C.R. PUBLICATIONS



A clerestory BH is the first vehicle behidn the two Rx class at Clare with a Show Day special.

HORSE BOXES OF S.A.R. PART 2

by Phil Curnow ·

THE BH AND NH CLASSES

As mentioned in the general information section of this series the clerestory BH and the NH were very similar whilst the round roof BH was a different design.

CLERESTORY BH CLASS

The members of this class still in service in 1950 were 865, 877, 4060, 4061, 4329, 4330, 4331. BH 865 was issued to traffic on 23/3/1912 and had a tare of 25 ton 15 cwt. The vehicle was condemned and the body scrapped 1/12/1964 with the chassis being used for an accident van. BH 877 was issued in March 1912 and condemned in 1959 with the chassis being used for accident van number 3. Numbers 4329, 4330 and 4331 were issued 6/7/1922 and eventually were condemned with the chassis being used for accident van number 1, standard gauge winch wagon 4330, broadgauge winch wagon 4331 respectively.

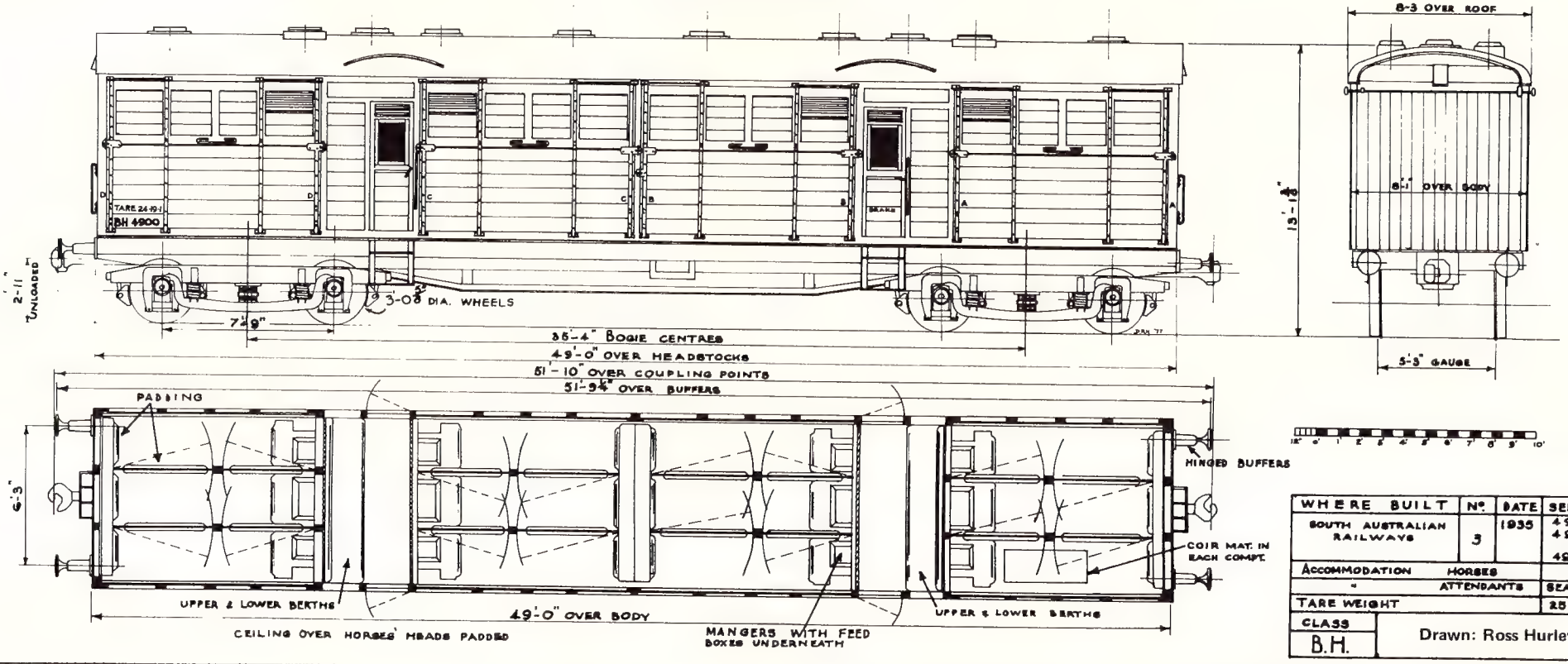
This class was issued with the then standard drawhook, screw couplers and side buffers and around 1937 they were all fitted with auto couplers, hinged buffers and Stones electric light. In 1940 the handbrake wheel was moved from the chassis to the Guard's compartment so that the horse box could be used as a brakevan and several of the class were painted green.

Other vehicles that were painted Hawthorn green with yellow trim around the window frames were the long tom brakes, fish brake and Port Lincoln division brakes. These brakevans retained this colour scheme until the new CGN class arrived in the late 1960s. In later years these horseboxes were painted reddish brown and all had been condemned by 1965.

Length 49'0" over headstocks, width of body 8'6¼", 12 horses, 8 grooms, truss rod underframe, straight equaliser type bogies, clerestory roof.

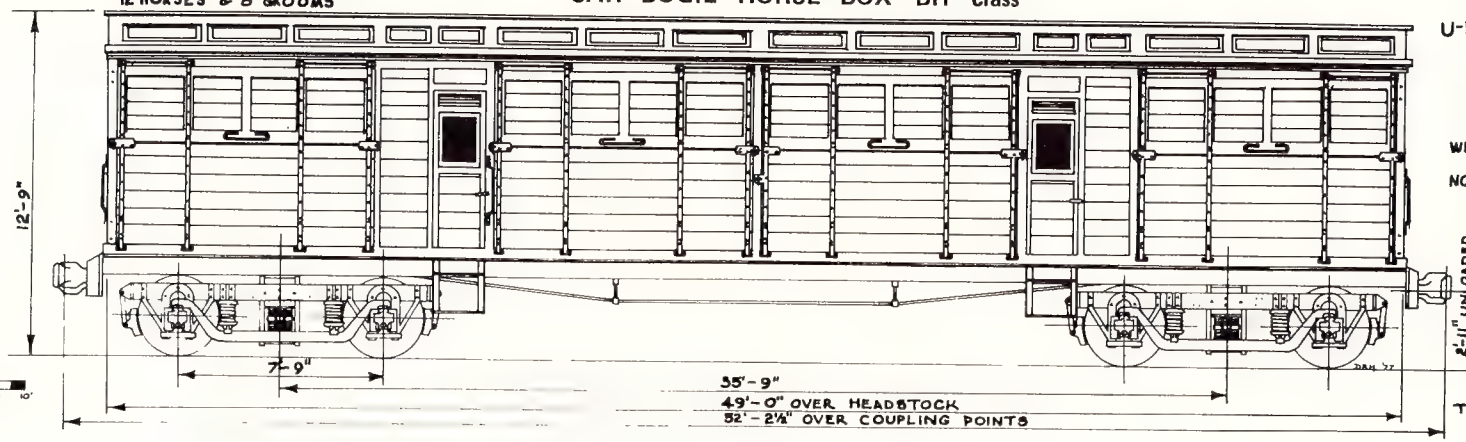
In August 1954 ex VR 2-8-2 752 rolls around the Gaol Loop with a Port Adelaide bound train. A Clerestory BH is used as the brakevan. Photo by Doug Colquhoun.

SAR BOGIE HORSE BOX 5'3" Gauge



WHERE BUILT	Nº	DATE	SERIAL Nº
SOUTH AUSTRALIAN RAILWAYS	3	1935	4900 4901 4903
ACCOMMODATION HORSES			12
" ATTENDANTS			SEAT &
TARE WEIGHT			25 TONS
CLASS B.H.	Drawn: Ross Hurley		

SAR BOGIE HORSE BOX 'BH' class



No. 4331 U/F. EQUIPPED WITH WINCH FOR RAIL LIFTING AT MILE END (DEPARTMENTAL)

U-F STRENGTHENED

AIR BRAKE ÷ 78%.

WIDTH OVERALL = 8'-6¼"
" INSIDE = 7'-9½"
NO. OF DOORS EACH SIDE = 4 SETS, 9'-9¼" WIDE

SERIAL NOS

FITTED WITH AUTOMATIC COUPLER

TARE WGT. 25-10-0

Drawn: Ross Hurley

Side view of a round roof BH. Photo by Doug Black.

ROUND ROOF BH CLASS

These broadguage horseboxes were issued in May and June 1937 and were given the numbers 4900, 4901, 4902, 4903. Islington built them for about 1450 pounds each and they had hinged buffers and auto couplers from new. As part of the brakevan project the handbrake wheel was moved from the chassis to the Guard's compartment in 1940. The body sides are similar to the other BH type but have additional louvres in the doors. The equaliser on the bogies is curved slightly downward and the chassis has a fabricated centresill instead of truss rods. They were painted reddish brown in later years and were a familiar sight stored on a siding near the Torrens Bridge but alas few photos. They were all condemned by 1970 although the chassis of 4900 has been retained at Islington for possible conversion.

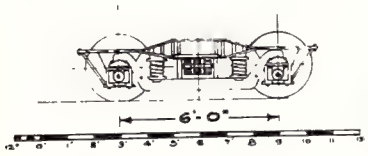
Length 49' width 8'1" round roof, louvre panel in each door, slightly curved bogie equaliser, fabricated centre sill, tare 25 ton, 12 horses, 8 grooms. Roof vents are of the fabricated style which are more clearly shown in a top view of the HB class which are another in this series.

THE NH CLASS

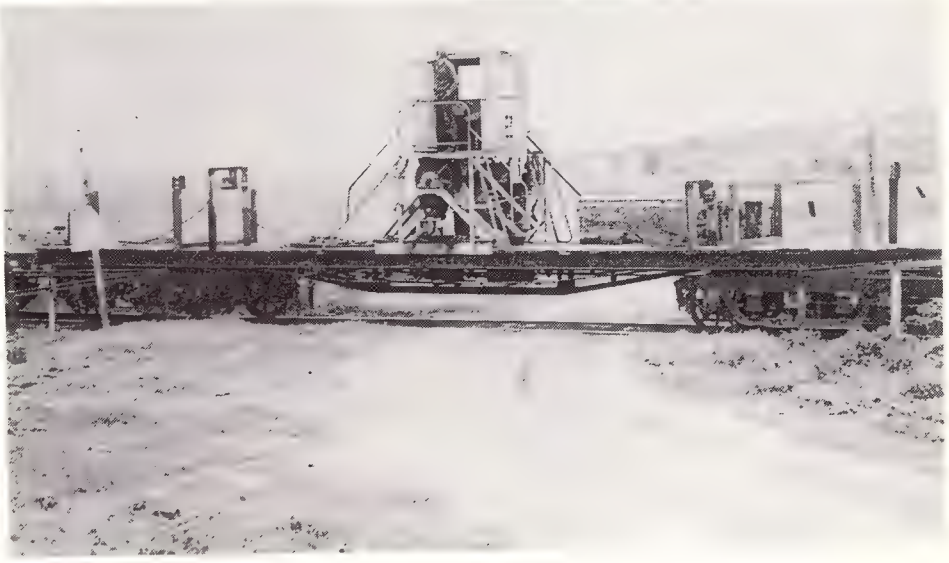
The narrow gauge NH class clerestory roofed horseboxes were numbered 5074 and 5075. SAR records state that they were one foot longer over headstocks than the clerestory BH and, although they had basically the same body, they had different wheelbase chassis. The SAR line diagrams throw doubt on some of this information and we have been unable to resolve it. The diagram of the NH (not reproduced) clearly states length over headstocks as 50'0", whilst it has actually been drawn 49'0" in

End view of the modern BH with a clerestory BH as second vehicle. The different bogie types can be seen and part of the hinged buffer supports can be seen on the headstock. Photo by Doug Black.

BOGIE HORSE BOX
3'6" Gauge
'NH' Class



Body: As for broad gauge horsebox BH Class (clestory roof) — see text.
Bogie Centres: 38'0"
Bogies: As drawn.
Height to Buffer centreline & centre if sole bar: 2'6"
Height to top of roof: 12'0"
Tare Weight: 22.0.0
12 horses and 8 grooms



This rail loading winch wagon is number 4331 and was built on an underframe from a BH class horsebox.

NH 5075 on the Peterborough scrap track. Photo by Peter Fehlberg.

These three photos by Phil Curnow are of NH 5074 awaiting scrapping at Peterborough in 1969.

length and the body is an actual tracing of the 49'0" clerestory BH body.

Photos of the NH vehicles show the body to be the same length as the underframe, so both must have been either 49'0" or 50'0". We have been told that the SAR diagrams were used as a guide to the builders, who then used their discretion. What may have happened then was a BH style body, lengthened somewhere by one foot, was put onto a 50'0" underframe the same length as the passenger cars but the diagram was not altered.

In summary then, length 49'0" or 50'0" over headstocks, width of body 8'6¼", 12 horses, 8 grooms, clerestory roof, truss rod underframe, tare 22 tons. They were issued from Islington Workshops in July 1914 and were condemned on 12/8/69 due to the introduction of the standard gauge in 1970.

BH and NH Features:- Stones Electric Light, Hinged Buffers and Brakevan Conversion.

Stones Electric Light was the standard system used by the SAR after it finished with Pintsch Gas and liquid fuels. On the BH and NH classes the lights were switched on by pulling a hand grip situated on each side of the car, under the body. The position of this handle was indicated on the underframe by the letters "EL" just above the footboard.

When built the clerestory BH was fitted with the, then, standard drawhook and screw couplings with side buffers. SAR converted to automatic couplers and no buffers much earlier than the VR so, during its own conversion programme and then for coupling to some VR classes, the BH class was fitted with hinged buffers in March 1937. The 1940 era General Appendix devoted four pages of written instructions and five pages of photographs to the combination of adaptor couplers and hinged buffers

with various SAR and VR vehicles.

The hinged buffers were built onto a plate fitted to the headstock and visible in the photos. The buffer compression did not cause a projection to enter the headstock as on normal styles, therefore there was no need for a large hole on the headstock. The hinged buffer was swung on the two lower hooks on the headstock plate. When coupled to a carriage with central platform buffers and automatic couplers the hinged buffers had to be held down. In this position the bridle link, which was swung on the upper two hooks on the headstock plate, was pinned to the top of the rear of the buffer casting. This effectively held the buffer nearly vertical. When the horsebox was coupled via an adaptor coupler to a draw hook equipped vehicle the hinged buffers had to be held up. In this position the link was swung upward and the top of the buffer casting was also pinned to the top two hooks on the headstock plate. The bridle link was allowed to lay on top of the buffer casting.

As mentioned in the introduction to this series of articles, the BH and NH could be used in place of a brakevan when authorised by the Superintendant. Although there was a Guard's compartment and the brakewheel had been moved there in 1940, it did not contain all of the equipment of a brakevan. So if an airhose burst and there was no brakevan in the consist the crew were instructed to remove the airhose from the rear of the trailing horsebox or from the leading end of the engine. Until 1976 the trailing vehicle of all SAR trains had to be equipped with marker lights and these were usually the American styled fuel lamp. Not surprisingly the General Appendix covered this also. At the completion of a journey where marker lamps were fitted to a horsebox the lights had to be removed and stored in the brakevan or, if there was no brakevan, they had to be labelled and waybilled to the station from which the horsebox originated. "Marker lamps must not be placed in the stalls or groom's compartments." Another general instruction was that straw could not be used on the floor of livestock vehicles if the engine was burning Leigh Creek coal.

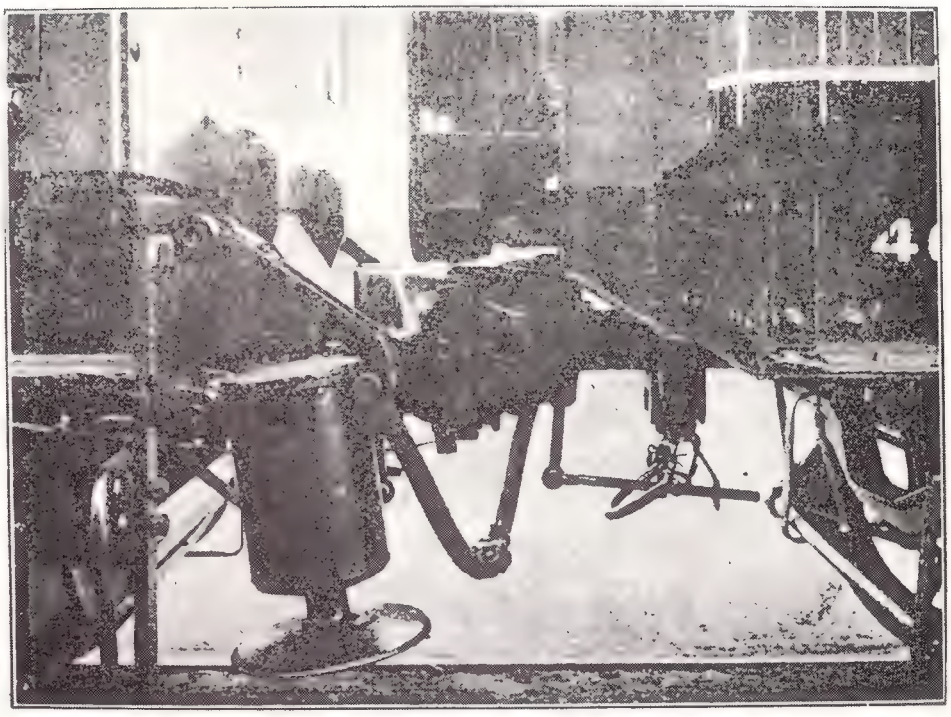


Illustration No. 5.—Showing position of hinged buffers when coupled with Joint-Stock cars; also 500 and 600 Class cars. THE RIGHT WAY.

This copy of an illustration from a 1935 General Appendix shows the hinged buffers clearly.

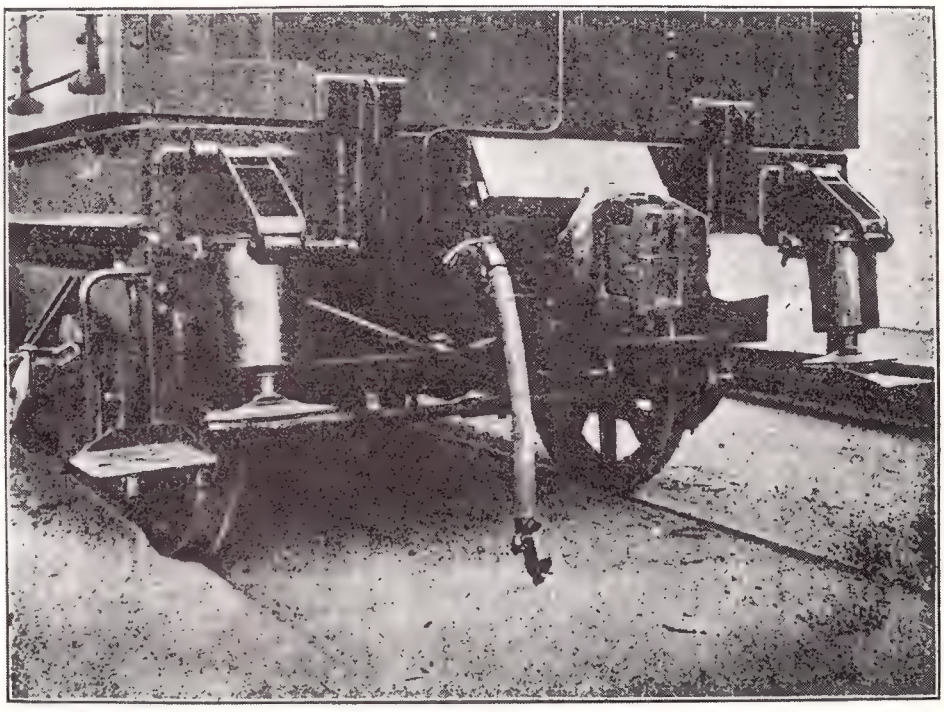


Illustration No. 6.—Showing correct position of hinged buffers. NOTE.—They have been secured in the lowered position by means of the pin.

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ARCHITECTURE & MAN MADE STRUCTURES

Shops in Your Town

In the days beyond recall there were no shops. All trade was carried out by a system of barter where goods and services were exchanged for other goods and services.

Markets came into being at strategic locations where people gathered to barter for their needs. Money came into use and the various goods and services could now be given a value which was related to the same thing, cash. Merchants began to see that they could buy goods with money and hold them for resale to other people for money. These merchants moved out of the markets and set up permanent places of business which we know as shops.

We will, for our purposes, define a shop as a room or rooms where goods are made available for retail sale.

Shops are an important part of our modern way of life. There are shops in many sizes and shapes and there are some that don't even look like shops at all.

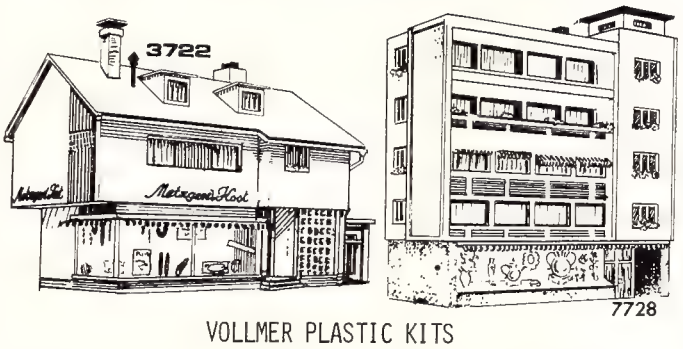
No model railway can be considered complete without at least one or two shops. There are very few railway stations of any consequence which do not have some shops in the immediate vicinity.

The simplest form of shop would probably be a single room standing in an isolated location and offering a limited range of wares to the public. Other shops are found in residential districts and might be a simple shop front added to an ordinary house. In a town shopping centre the shops will range from the one roomed lock up shop to the many roomed emporium of one, two, three and more floors depending on the size and importance of the town and, probably too large to model, the regional shopping centre with its many shops under the one roof and large car parks adjoining.

No shop is complete without staff and customers. In any busy shopping centre there are always window shoppers and people walking about as they go about the business of buying their daily bread. If there are no people about during business hours one might be excused for thinking that business was terrible. At night shop windows are usually lit and people go window shopping and of course there are the late shopping nights, Thursday in N.S.W. and Friday in Victoria.

Always around shops there are signs. Signs to show the name of the shop, signs to show the nature of the business, signs to show the products sold and so on. In the streets outside the shops there are the litter bins, the bus stops, the parking meters and all the other little details which go to make up the true to life street scene..

Let us now consider a few of the shops which are available from the AMC range of distributed products.



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3740 Old-time German Shops with residence above
115x86x130mm .. .$11.25

KITS FOR SHOPS IN N

7720 Department Store, 4-storey, 130x100x92mm $6.95
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7723 Camera Shop - 54x49x48mm $4.75
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7728 Store with flats over, 5 level $5.95

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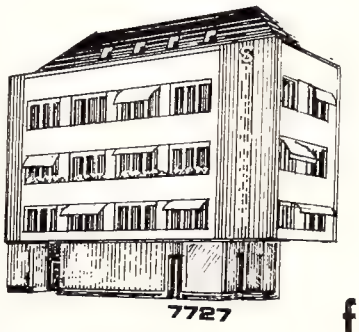

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PROTOTYPE PLAN

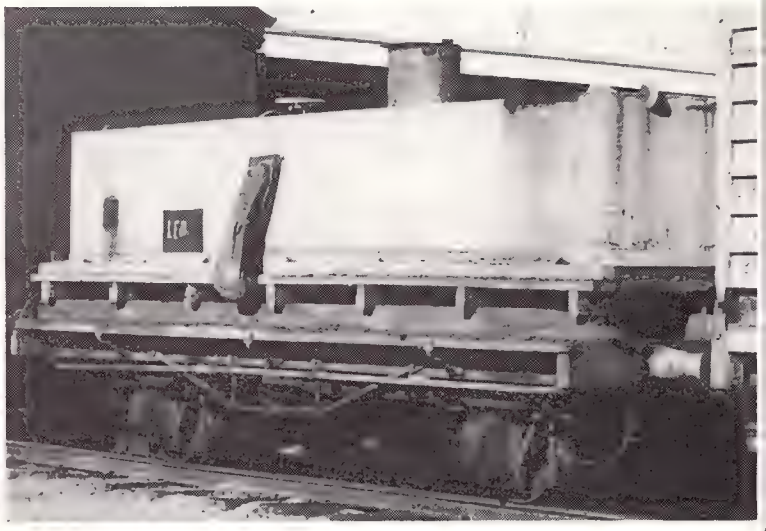
Q.R. 'FGW'

Water Tank Wagon

Q.R. 1620 class diesel electric locomotive 1635 heading a guard tuition and water duty train near Logan Village on the Beaudesert branch in January 1978. R. White photo.

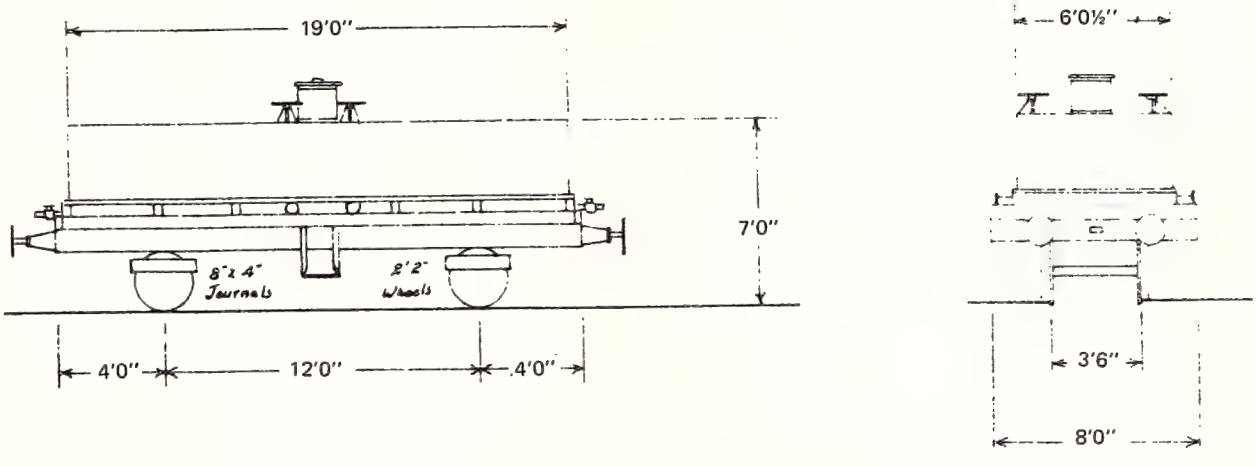
The FGW class of water tank wagon is the most numerous of all the various classes of water tanks that are, or were, used by the Queensland Railways.

These tank wagons are fitted with end



FGW at Nambour, May 1976. R. Gallagher photo.

QUEENSLAND RAILWAYS FGW class Water Tank.
Drawn: Keith McDonald. Scale: H0 1:87.1
Tare: 7t 7 cwt Load: 2125 gals.



delivery pipes for connection to locomotive tenders by means of flexible pipes. Some units were fitted with side delivery pipes to supply water to ground tanks used by work gangs in isolated locations.

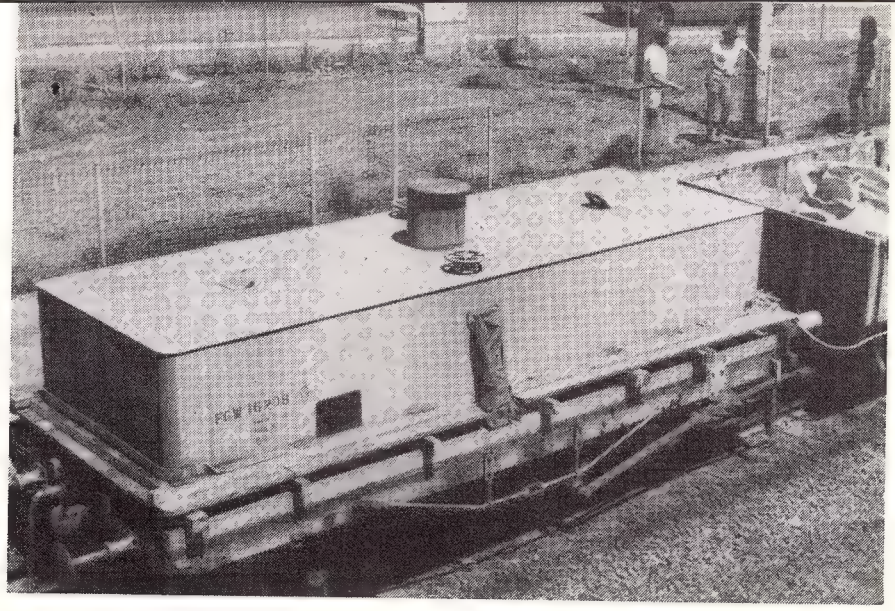
The date of introduction is unknown but some were in service in 1923. The total number of units in service has fluctuated with demand, the largest number in service being 236 units in 1945; in 1975 there were still 137 units in service. From 1946 to 1950 40 units had the tanks removed and were re-coded to WFG, platform (flat), wagons.

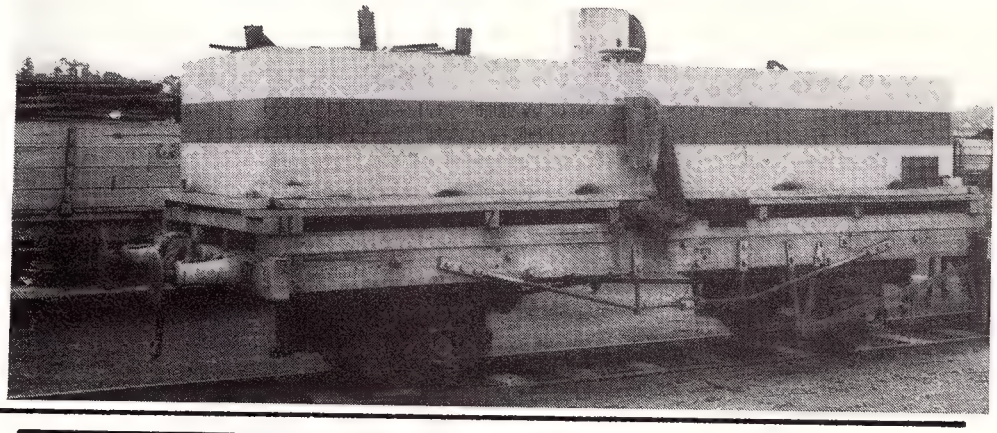
The standard colour is a complete coat of light admiralty grey, prior to the 1950's they were painted black.

Some of the running numbers were 67, 177, 207, 350, 358, 433, 532-3, 537-9, 542, 617-8, 626, 629, 633-6, 638, 783, 1555, 1938, 1955, 2001-3, 2008-9, 2638, 7395, 8091, 8112, 8114, 8243-47, 9314, 9378-83, 9462, 9758-63, 9971, 10018, 10026-40, 10876-85, 11440-51, 11496-507, 13052-63, 13894-913, 14748, 15484, 15489, 17577, 17736, 17823, 17900 and 17932.

Arthur Robinson

Acknowledgements: Special thanks to Keith McDonald for supplying the plan and relevent data from which these notes were prepared.





'FGW' 8150 Ipswich workshops in 1976. The red stripe around the centre of the tank denotes, DRINKING WATER ONLY. This tank has no end delivery pipes, thus cannot be attached to locomotive tenders. In some areas chemicals (bricketts) were added to improve steaming and to stop priming, thus making water unfit for human consumption. Photo Arthur Hayes.

TILT TABLE

By John Andrew

One of the most pressing problems of modellers is space for a permanent layout. We are generally allowed storage space of a spare room wall, behind a wardrobe or the back of a garage. This entails endless dismantling and re-assembling to fit the necessities of car and other needful family goings on; it is time-wasting and there are enough blights to successful running of a layout without adding, dismantling and folding away between runs. So, if you have a garage or allocation of a wall space in a spare room, the tilt table could be for you.

Six pieces of 6" x 1" x 18" Kiln Dried are cut. Two pieces are shaped and the check-outs made from the lower rail. Rails would be made of 3" x 1" K.D. Two holes are drilled on the lower edge for castors about 2" from the ends.

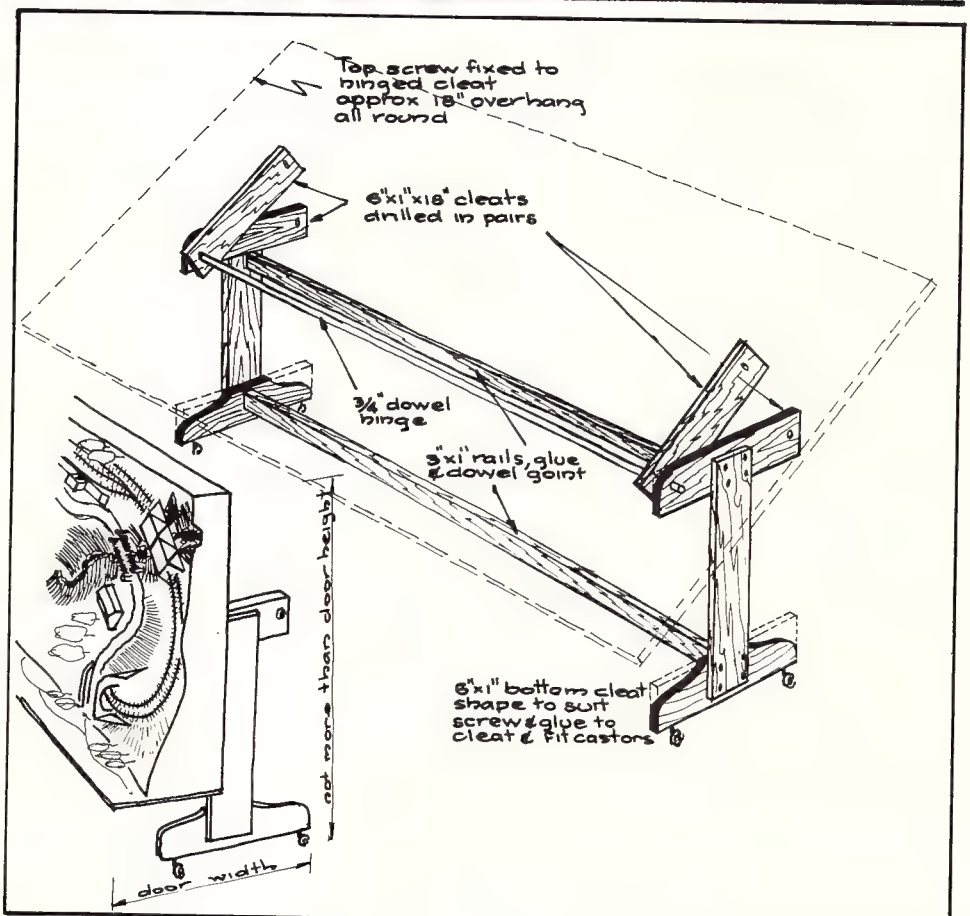
Two more pieces of 18" x 6" x 1" are now drilled with one ¾" dia. hole 2" in from the end, another hole 3/8" dia. is drilled in the same position at the other end of the timber.

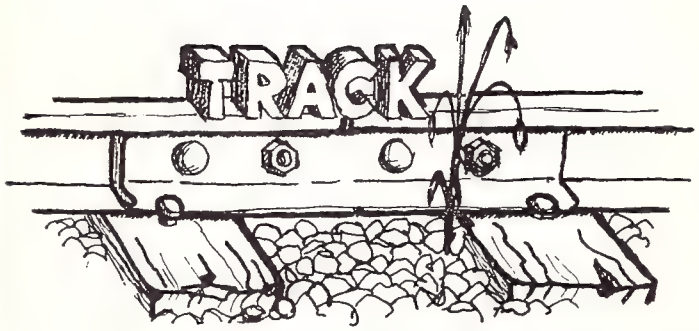
The two corners which are to be placed nearest the table top or top edge have a 3" radius curve to prevent the table jolting as it is tilted. The last two pieces cut are then drilled as above using the previous pieces as templates. Two more pieces of 6" x 1" are then cut to a length to suit the height required for the table top.

The cleats and rails are then checked out, glued and screwed together. Castors are then fitted to the holes in the bottom cleat. A ¾" dowel is then passed through the four top cleats; it is a much stronger hinge if the dowel is allowed to extend the full length between the two cleats. Two 3/8" pins or bolts are then placed to hold each pair of cleats in position and prevent tilt.

Now take your table top or pineboard piece (my table is 9' x 5') and fix the cleats without the radius curve to the table at centre and 18" in from the end. Screwing through the table top to the cleats is perhaps the neatest way.

The actual size is governed only by the height of the doors or the wall storage area. Scenery height is governed by the width of the doorways and of course must be fixed to the table top. To tilt the table simply remove the pins. WAIT!! Don't forget to remove your rolling stock first.


Top screw fixed to hinged cleat approx 18" overhang all round
6"x1"x18" cleats drilled in pairs
¾" dowel hinge
3"x1" rails, glue & dowel joint
6"x1" bottom cleat shape to suit screw & glue to cleat & fit castors
not more than door height
door width



FOUR

Clive Huggan concludes his two part article on a No. 5 turnout.

The Curved Stock Rail

The curved stock rail basically follows in gauge with the closure rail; but first a message from our sponsors, the 12 inches-to-the-foot mob. If you look at an Australian turnout, standing up the track a bit and looking at the points, you'll notice that there is a very sudden change of angle (a 'set') in the curved stock rail, at the toe. This is followed by a 15 ft. length of straight rail. transitioning into a curve. Fig. 31 shows these characteristics very clearly. The two features are most important to remember when we model. The point next to the straight stock rail is straight too, not curved and makes the same angle as the set in the stock rail — so the transition from straight track to the curved route of the turnout is not so smooth as one might believe.

The curved stock rail is therefore bent abruptly with two pairs of pliers to form a set. Check against scribed lines on a piece of laminate (similar to Fig. 34) that after 52.5 mm from the set, the stock rail is 1.74 mm from the straight (see Fig. 42). 'Tin' the outside of the web for jumper wires as before. Taking care to carefully gauge the simple track beyond the toe, and having gapped the sleepers if you're going to view from the left, solder the stock rail in place. Slip a track gauge on to the curved closure rail (preferably the gauge-widening Tenshodo) and continue soldering towards the vee, making sure that you straighten up opposite the spot where the curved closure rail straightens. Check for smoothness of the curve and accuracy of gauge. If you have trouble gauging at the crossing, go over-gauge rather than under. In a later article I'll describe gauges that make gauging at the crossing quicker and easier.

Gauge widening from the heel right through the crossing is important and can be shown to decrease resistance through the curved route. I use a roller-gauge with 0.15 mm (0.006") widening specially for this work. I realise that some people will say this is unnecessary — spoken from the depths of their armchair. Gauge-widening takes no longer than laying to gauge; a vernier caliper can be used if you don't have a Tenshodo-type gauge.

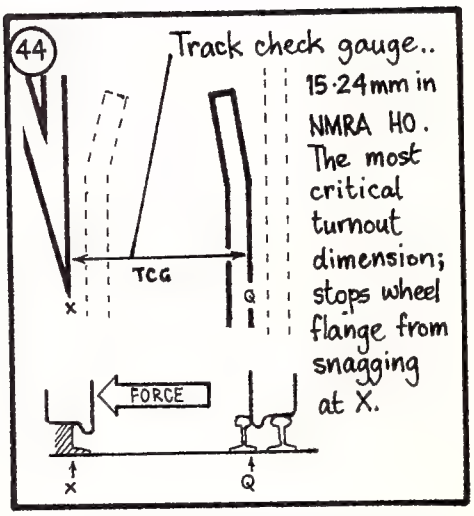
Now it's starting to look like a turnout. And it hardly hurt a bit except for the charred finger-tips, did it?

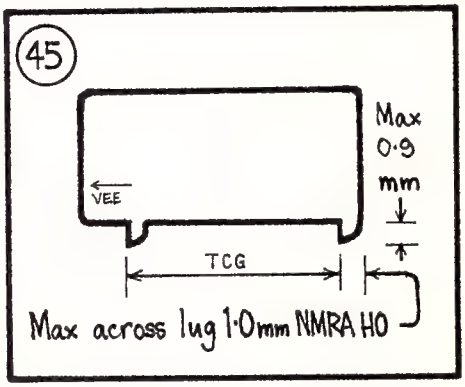
The Check Rails

The check rails are cut and shaped as shown in Fig. 43. Apart from the toes of the points (yes, the wiggly bits on Fig. 29), the check rails are the most important part of the turnout, because, as you will have seen when running the bogie through, wheels have a most disillusioning habit of taking the wrong route without them. Most of youse Pommie modellers (except P4 types) and others who haven't read NMRA standards carefully, will be nodding knowingly. 'Back-to-backs', they mumble; and 'he's going to mention the importance of sticking carefully to specified check-rail flangeways.' Not so. Check-rail flangeways won't even be measured. What is important — vitally important — is the *distance from the outer edge of the check-rail to the corresponding edge of the vee* (TCG in Fig. 44). This is called the track check gauge. It does not vary at all; so, if the track is gauge-widened through the turnout, all that is different is the check-rail flangeway.

In H0 NMRA the track check gauge is 15.24 mm which is completely compatible with (but not actually specified by) the British BRMSB standard. When used with wheelsets made to the correct back-to-back measurement, the check gauge ensures that the wheel going through the crossing is in *exactly* the right place, without binding and without dropping into the gap at the throat. Like it or not, this dimension is very critical, and it must correspond with your wheel standards if running is to be reliable. If you use non-NMRA/BRMSB wheels, you'll have to measure your own brand's turnouts, other than the old Wrenn closed-frog types, generally don't work well without packing pieces or further surgery.)

Because it's an inside-to-outside gauge, you can't use feeler gauges or a vernier caliper.





However, a special roller gauge is just perfect (details in a later article). As a start I once cut a template from sheet material as shown in Fig. 45.

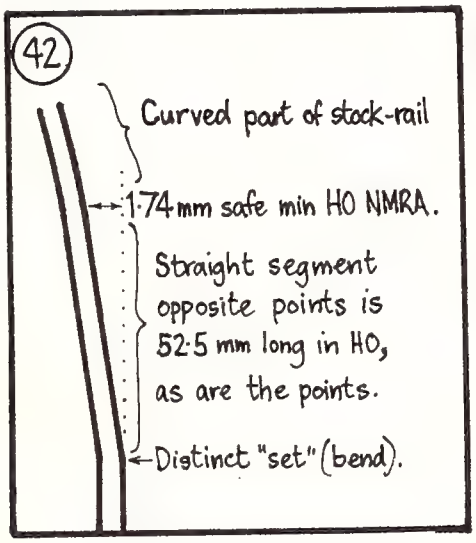
Now we've got through the theory, installing the check rails is easy. Solder paint on; gauge; hold with sickle probe; check position.

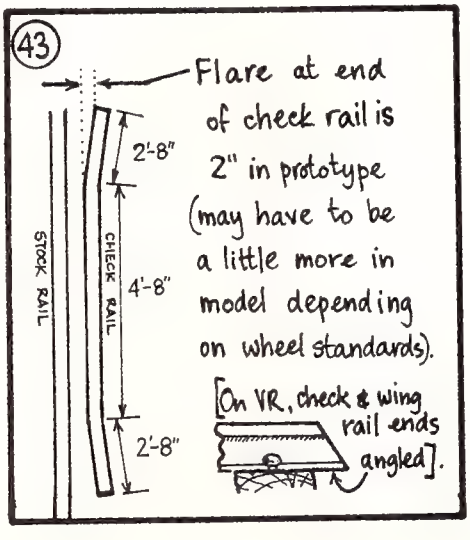
If you gravity-run a bogie through the crossing now, and don't reckon the silky-smooth running is one of the best things you've seen in the hobby — and you aren't jumping with the pleasure of it being all your own work — then take up crochet work or something!

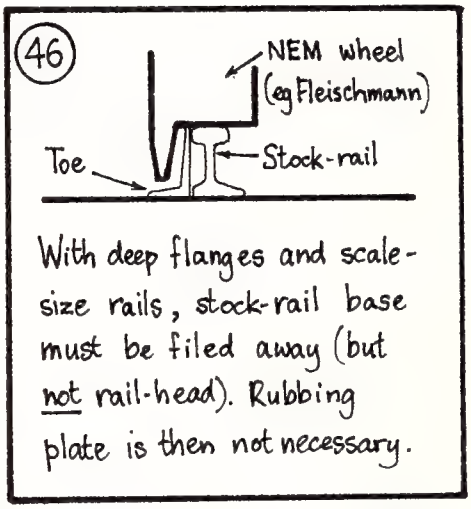
The Business End

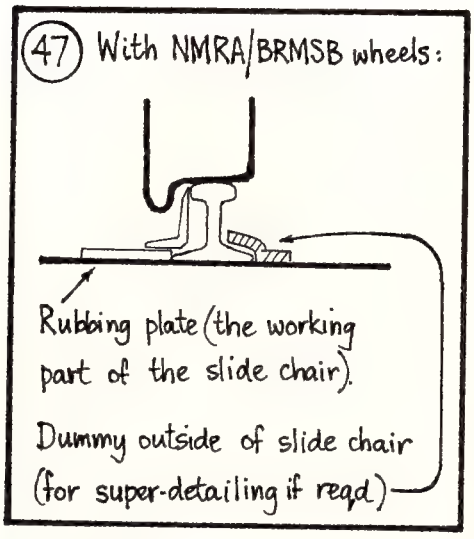
The experienced track-layer should have no trouble making the points if he takes his time. Anyone who has got this far can count himself experienced!

Note that the stock rails have not been filed at the toes, nor have they been 'joggled' or had anything else done to them other than the abrupt set being formed. Derailments are totally avoided by using points filed to the shape of the prototype, together with NMRA RP25 wheels. (With deep/sharp-flanged wheels


42
Curved part of stock-rail
1·74mm safe min H0 NMRA.
Straight segment opposite points is 52·5 mm long in H0, as are the points.
Distinct "set" (bend).

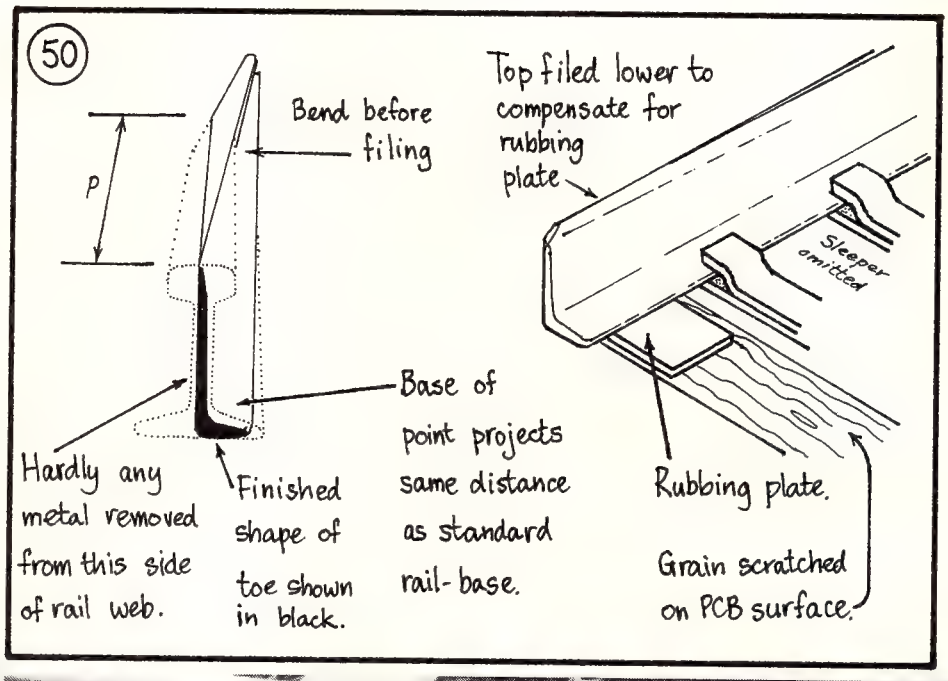

43
Flare at end of check rail is 2" in prototype (may have to be a little more in model depending on wheel standards).
2'-8"
4'-8"
2'-8"
STOCK RAIL
CHECK RAIL
[On VR, check & wing rail ends angled].


46
NEM wheel (eg Fleischmann)
Toe
Stock-rail
With deep flanges and scale-size rails, stock-rail base must be filed away (but not rail-head). Rubbing plate is then not necessary.


47 With NMRA/BRMSB wheels:
Rubbing plate (the working part of the slide chair).
Dummy outside of slide chair (for super-detailing if read)

not to NMRA standard, the stock rails may have to be filed a little, but only at the base (see Fig. 46).

Next, metal shim 'rubbing plates' (Fig. 47 & 50) are sweated on to the two long sleepers (or glued with ACC), on which the toes of the points will slide on them. The thickness should be the height of the rail base halfway between the edge and the web (0.4 mm/ 0.015" in Code 55). The rubbing plates can be omitted but the points shape is more complex and weaker, and is less likely to align properly. They should be omitted if the flange depth is close to the top-of-rail-base to railtop distance (Fig. 46); in this case the base of the stock-rail must be cut away.


50
P
Bend before filing
Top filed lower to compensate for rubbing plate
Sleeper omitted
Base of point projects same distance as standard rail-base.
Hardly any metal removed from this side of rail web.
Finished shape of toe shown in black.
Rubbing plate.
Grain scratched on PCB surface.

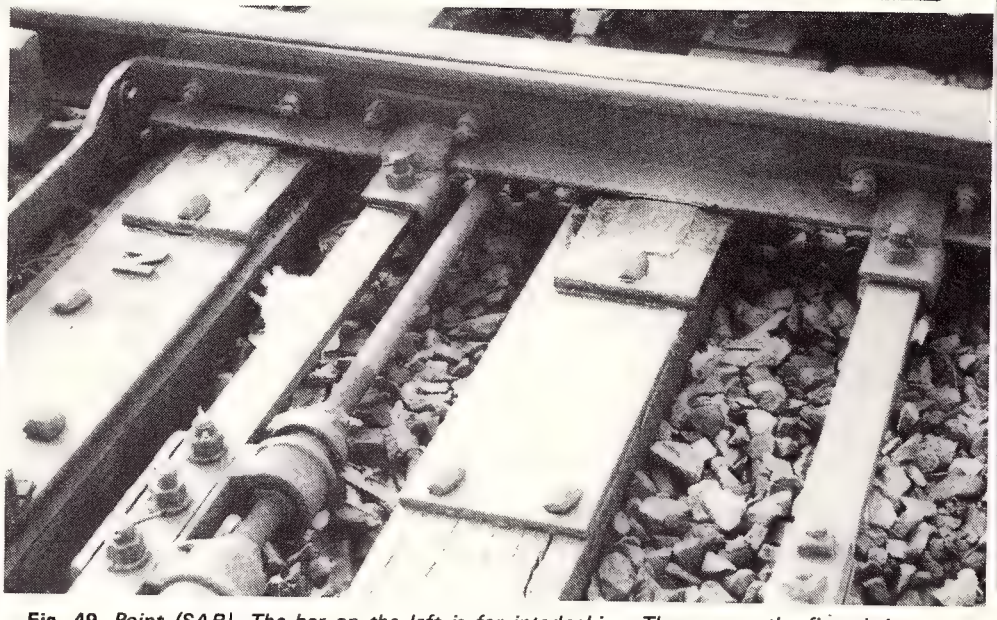


Fig. 49. *Point (SAR). The bar on the left is for interlocking. Then comes the first tie-bar; then the throw bar and the second tie-bar. 'N' on the tie-plate stands for 'normal' (route). 'R' next to the other point (out of photo) stands for 'reverse'.*

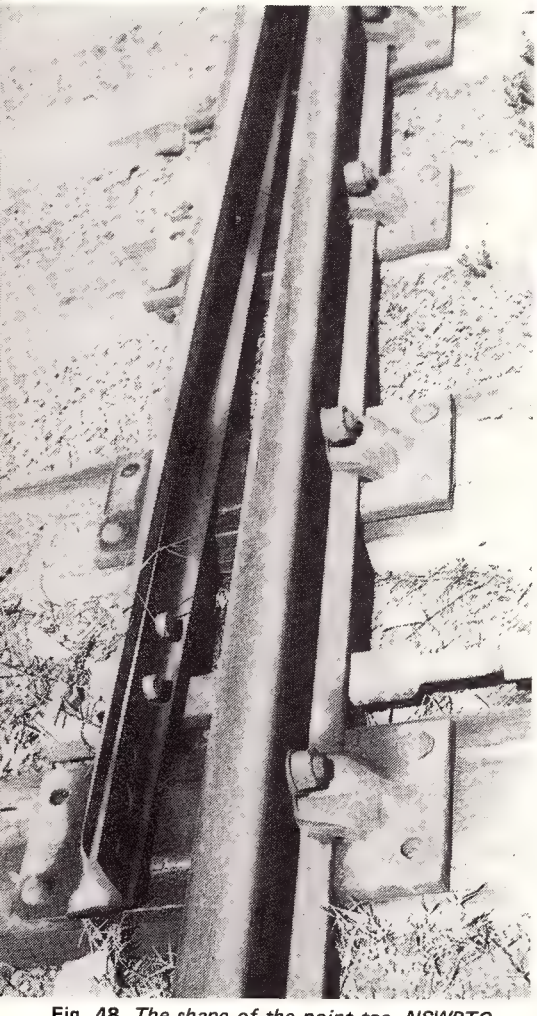


Fig. 48. *The shape of the point toe, NSWPTC. (Actually the point of a derail, as shown by where the throw-bar goes — but the sun was at the right angle!) Note that the shape in Fig. 50 is a simplification of the proper shape shown here. (On VR, WAGR, SAR it is usually thinner.) Note slide chairs.*

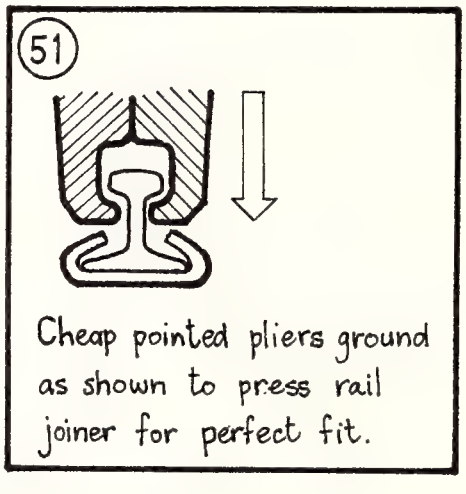
The Points

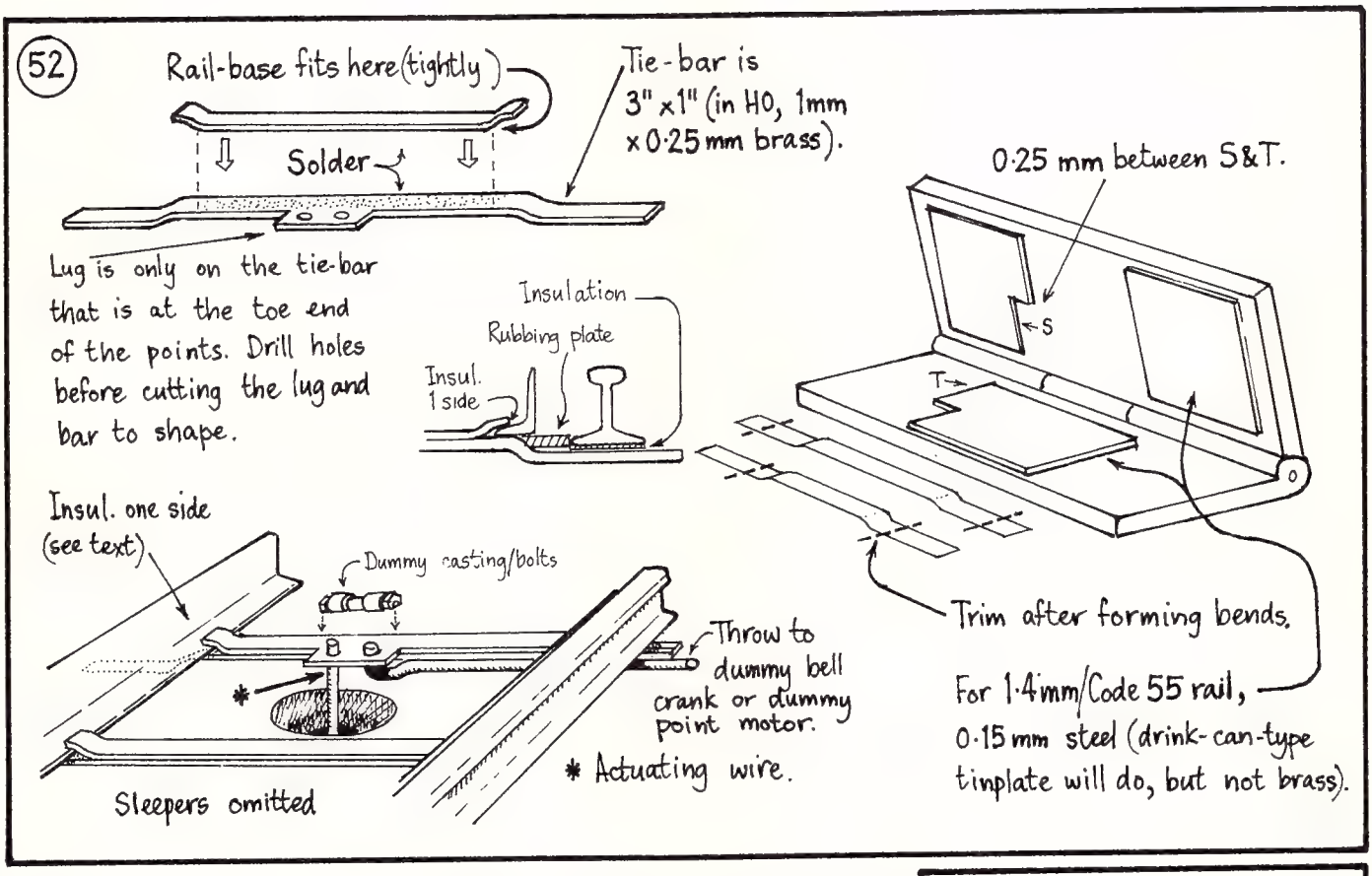
The photos in Fig. 48 & 49 should be studied in detail to get an idea of the complex shape of prototype points. We should aim for that shape as it's so reliable. In practice I find I am forced to simplify to the shape shown in Fig. 50. Filing them is an operation that takes somewhat longer to do than to read how to do it. First cut the points very much over-length, say 150 mm. Remember whenfiling that you can take more off but you can't put any metal back on, so work carefully. Though I have good eyesight, I use a magnifying glass for regular checking of the shape when using Code 55/1.4 mm rail. Good lighting is important, too. (Yes, cobber, I'll tell the truth,' he squeaked, 'there is one disadvantage to Code 55. It's those confounded points!') But it's worth every bit of it. Your previously charred fingertips won't hurt either — you'll file them off while doing the points.

The aim is to remove only enough metal to leave a snug fit between the stock rail and the point. To get the same angle, remove metal no further from the toe than a distance, P in Fig. 50 equal to (length of point) ÷ (heel spread) X (rail-head width). This works out at 15 mm with Code 55 and dimensions already mentioned. If you installed rubbing plates, the height of the points will have to be filed down progressively towards the toes.

The most important thing is to avoid any twisting of the points that allows the tip to stand clear of the stock rail; and secondly to keep the rail base the same size after filing as before and finally to have the point 'blend in' to its rightful place.

When the point is the right shape, and perfectly straight, it is cut at the heel end so that the toe rests on the second longer sleeper and ends just short of the sleeper edge. Finally emery cloth is used to smooth the point, especially on the rail base.




52
Rail-base fits here (tightly)
Tie-bar is 3" x 1" (in HO, 1mm x 0·25 mm brass).
Solder
Lug is only on the tie-bar that is at the toe end of the points. Drill holes before cutting the lug and bar to shape.
Insulation
Rubbing plate
Insul. 1 side
0·25 mm between S&T.
S
T
Insul. one side (see text)
Dummy casting/bolts
Throw to dummy bell crank or dummy point motor.
* Actuating wire.
Sleepers omitted
Trim after forming bends.
For 1·4mm/Code 55 rail, 0·15 mm steel (drink-can-type tinplate will do, but not brass).

Pivots

There are probably as many methods of pivoting and moving points as there are brands of track in this hobby. Many articles that I've read (and followed up) in the past twenty years have hurried over this aspect or have been rather vague. It's very much subject to personal preferences. For this turnout I'll opt for the method that's closest to the 12"-to-the-foot variety, and works and looks well. It's a bit fiddly, so I'll discuss alternative pivots in a later article.

The pivots are rail-joiners trimmed to 5 mm in length. They are fitted tightly onto the closure rails, then opened up a bit where the points will fit. By trial and error, loosen their grip on the points so that the points can move 2 mm at the toes with no resistance, but are help upright with no sign of wobble. You may have to crimp them downwards (Fig. 51) to achieve this. Most importantly, make sure the points can slip back and forward in the rail-joiners for a millimetre or so. They must remain tight on the closure rails, though.

Before finally fitting the points 'tin' the outer sides of the web for a few millimetres but just back from where the rail joiners will be. To stop the ends getting soldered and later jamming the joiners, apply lead-pencil graphite to the ends of the points (see Fig. 38 again).

Tie Bars

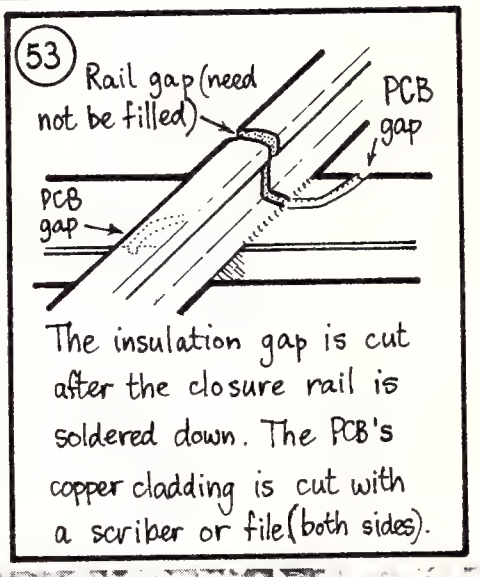
For this turnout I'll go the whole hog with the tie-bars. I realise this method won't be everyone's cut of tea, and less demanding and more rugged methods will appear later. The greatest advantage is avoiding the two-hundred-weight sliding sleeper apology that everyone pretends isn't there. The prototype will be copied again and with no loss of reliability because the force used to throw the points will be very much less than the usual over-kill. Fig. 50 & 52 show how it's done. (Many thanks are due to Ross Hurley, whose valued collaboration over a long period has led to development of the design shown.)

There are two tie-bars on turnouts that are manually operated in the turnouts with point-motors (the third being right at the tip of the toe, connection to the locking device) See Fig. 54

The design in Fig. 52 was developed to keep close to the prototype sizes while achieving electrical insulation and joint strength. Sgrength is achieved by the long 'sandwich' solder joint and the ability of the 'clip' principle to take most of the shock and strain, which is in any case a pushing force, not a twisting or shearing force. Now you can see why care was taken with the points to ensure a snug fit and smooth sliding action.

Once the hinge jig in Fig. 52 is made, the tie-bar strips can be formed in seconds. Apart from quickness, the jig's advantage is in uniformity in the 'gauge' of the points, which should allow a flangeway gap at the toe of 2 mm. (Note: only *at* the toe, because the filing of the point will result in a narrowing down to 1.5 mm before the gap of 1.74 mm at the heel is reached.)

After a 'dry run' to test for sizes and fit, the tie-bars are each coated with solder paint on one end only. All the solder joints will be on to only one of the points. By preference I make this the point that will normally be closed when it is in use on the layout. Taking care to apply just the right amount of heat, solder up. If necessary, cotton wool soaked in water is laid on the tie-bar to prevent the sandwich joint from melting. The other ends of the tie-bars are stuck to the other point, using ACC


53
Rail gap (need not be filled)
PCB gap
PCB gap
The insulation gap is cut after the closure rail is soldered down. The PCB's copper cladding is cut with a scriber or file (both sides).

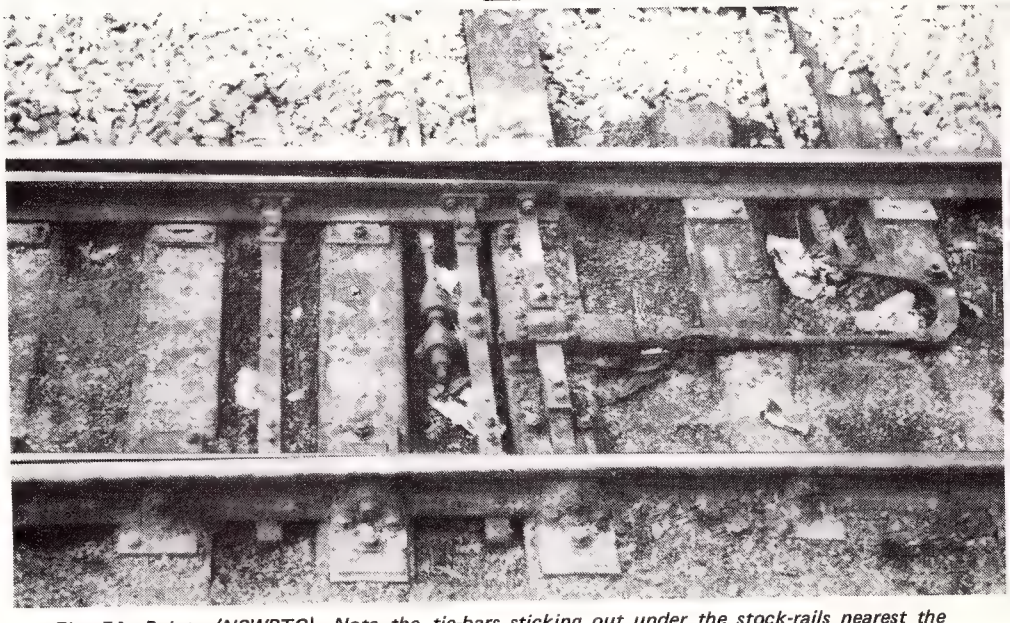


Fig. 54. *Points (NSWPTC). Note the tie-bars sticking out under the stock-rails nearest the viewer, and the locking mechanism, in this case from a signal box.*

adhesive (such as Zap) or epoxy and a piece of cigarette paper for the electrical insulation. Make sure the metal is perfectly clear (detergent in water, then meths), before applying the adhesive.

The tie-bar is thrown by a length of thin spring steel wire (about 0.3 — 0.4mm diameter) which is a loose fit through one of the holes in the tie-bar. It's important to note that the wire will not be soldered or glued to the tie-bar. When the turnout is installed on the baseboard the wire will be fitted from below and the surplus length will be nipped off. This and other 'below-baseboard' aspects will be covered in a later article.

To test the operation of the points, the spring wire should now be poked down through the tie-bar hole and used to operate the tie-bar. There should be no resistance perceptible, and the points should align perfectly with the stock rails. It should now be possible to throw the points fully with about the weight of a 20c piece. This has a number of advantages over the excessively high forces often employed:

* There is far less likelihood of the tie-bars failing.
* There is no tendency to deform the stock rails.
* Freedom from derailments is more likely because of the lesser likelihood of distortion of points (the notion that dust and dirt will obstruct points unless strong force is used is a hoary chestnut).

When testing with the spring wire, the points may drift along the rail-joiners away from the closure rails. This is avoided after the turnout is installed by having *absolute minimum* spring wire pressure pushing the points onto the rail-joiners. The points will each slide 0.3 mm along the slightly loose rail-joiner as the tie-bar is thrown.

Electrical Reliability

Next the jumper leads across the joiners, from both closure rails to their corresponding point, are installed. A couple of very thin copper wire strands from some electrical flex (e.g. 240 V household flex) are tinned with resin-core solder and soldered to the spots already tinned on the outer sides of the rail webs. The jumper leads avoid the unreliability of powering the points from the stock-rail or through the rail-joiners. They will be fed from the closure rails which in turn are supplied from the stock-rail through the copper cladding of the PCB at the heel. The thin jumper leads should not stiffen the sliding of the points; if they do, you've used wire that's too thick or melted solder into the rail-joiners.

After a brief period of 'worshipping' your handiwork, remove the turnout, hook up to other track and push-pull several coupled items of rolling stock through, to check for obvious defects in running qualities — not that you'll expect any, but if you have a car that is always the first to derail on your layout, give that a try. When no further soldering is due, scrub the turnout in water containing bicarbonate of soda, to neutralise the corrosive flux. An old soft toothbrush is best; be careful with the tie-bars. Finish off by scrubbing in hot water to which detergent has been added. Dry carefully with a tissue, particularly at the points.

The intermediate sleepers are now added. They can be PCB if you wish, but I prefer the realism of wood. Because turnout timbers are replaced more often than sleepers in simple track, Northeastern basswood strips (size L7 for H0 sanded to reduce width to 2.6mm) are preferable to balsa, because of basswood's finer grain. Incidentally, medium to medium-hard balsa is perfectly strong enough for simple track; its open grain simulates weatherd sleepers better; and it strips better than basswood. When added to the turnout, Northeastern sleepers will be thicker than the PCB, so it's not a bad idea to sand them down close to their eventual thickness before glueing them to the rails. Heat-sealing with Pliobond, or using epoxy or ACC adhesive, though I don't use it here — is recommended. The sleepers are cut a few mm over-length, placed in position under the turnout and glued. However if slide chairs are preferred all along the point first cut and glue brass shim or card onto the point sleepers, against the stock rail (Fig. 47).

Next the sleepers are trimmed to correct length with end cutters, to leave about 20" from the outer edge of the rail-base. (Preferably mark the 20" boundary along the ends of the sleepers first or take the dimensions off Fig. 30; whichever way it's done, it should be remembered that although turnout sleepers are not usually cut with 90-degree ends, the alignment of their ends is usually very accurate.) Finally, move the turnout gently and slowly over fine sandpaper (preferably the non-clogging aluminium oxide type), to produce a level base. Manila card will later be placed under the turnout to bring it to the normal height of simple track, if necessary.

Although the tie-bar ends shouldn't contact the stock-rail as they slide back and forth, it's best to be doubly sure by glueing a piece of high-quality card under the stock-rail by the tie-bar ends. For good measure the card is soaked in shellac dissolved in meths, or soaked in varnish or paint tt make it harder.

The next step is to gap both closure rails, preferably above the PCB sleeper marked B in Fig. 30. A 'Joe Dandy' separating disc (an abrasive cutting disc 20 mm in diameter) is used on a dental mandrel in an electric drill. Both are obtainable from a dental supplier. Apply the gentlest of pressure and avoid twisting the disc, and the disc will cut the rail like cheese. Gap the PCB by scribing so that the two newly-separated ends of the closure rail are electrically isolated from each other, see Fig. 53. If the scribe marks are too deep, fill with plastibond or similar (but first test that the gap is distinct enough for reliable insulation).

For installation, the turnout is placed in position on the road-bed. The centre of the main tie-bar is marked on the road-bed and the turnout is removed. Then a 5 mm diameter hole for the operating hole is drilled through the road-bed. Pabco Vinylfix No. 80 adhesive is used to glue the manila spacing sheets (if any) and turnout to the road-bed. If you want to install the turnout so that it can be removed later (I recommend it), have the road-bed under the turnout fixed to the baseboard by eight woodscrews accessible from below. Drill holes for electrical feeders to the stock rails and crossing, and solder them on. Remember to anchor each feeder, under the baseboard, to a woodscrew. The gapping assumes the polarity of the crossing will be changed as the points are thrown.

Final detailing will be dealt with later — ballasting and weathering is best left for a while in case adjustments need to be made after the turnout has been operating for some time.

I will cover several methods of powering turnouts in the next article. Most important, however, is that force is transmitted to the tie-bars, regardless of the method of powering, by thin spring wire.

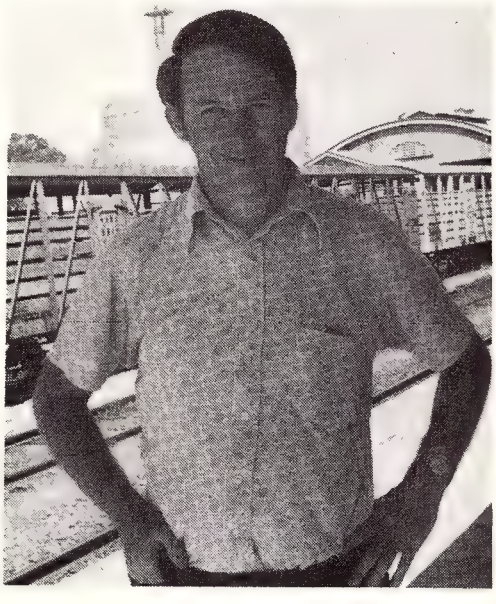
Well, as the teacher used to say after delivering six of the best, 'That took more out of me than it does out of you.' I'd rather make turnouts any time than write about them, quite frankly. I can promise anyone who has got this far without skipping that he has ample patience for making turnouts. For anyone who hasn't made them before, it should be obvious now that some care, patience and ability to self-criticise is necessary. But the enormous pleasure in seeing the turnout grow before one's eyes, and the continuing satisfaction from long-term reliability, is something that can only be experienced, not described.

To follow: for the faint-hearted, how to graft commercial turnouts to scratch-built simple track. Powering the turnout. Alternatives. Doing away with templates. More on gauges. Standard for people using other than NMRA H0.

MEET CLIVE HUGGAN

Clive Huggan is 34 or thereabouts, and commenced railway modelling in 1956. He was modelling SAR before he could do up his bootstraps, and was a foundation member of the South Australian Railway Modellers' Association (SARMA) in the early sixties. He was also a member of the Adelaide University Modellers' Club for four years where he first got a taste for things like code 65, and track of minimum 6 ft. radius in H0. From the diverse specialities of members he gained a lasting interest in searching as widely as possible for ideas and techniques to solve problems.

As a Squadron Leader in the RAAF he lives with his model trained family in Canberra, where he works in Air Office. For almost five years after he joined the Air Force he gave up modelling because of the difficulties of a nomadic existence and the physical problems of removals. Since then he has found that he can turn the apparent restrictions of service life into advantages, and has developed a philosophy where he takes a broad-interest approach to the hobby but focuses upon selected areas that he finds particularly stimulating at the moment. Hence he no longer lives with 6 ft. radius curves, but code 65 has given way to the much better code 55. The "Track" series is an example of such a stopover for closer inspection. Although he has a vague over-all master plan of his work he has no interest in having "a monkey on his back" through pressures of time or deadlines. He says



this practice gives him immense enjoyment of the hobby.

Married Quarters are not known for their generosity of space toward railway modelling (and often as not for just living either) and space restrictions have precluded him from building layouts. In a break with tradition the Huggan family are now enjoying the luxury and spaciousness of their own home in this posting. He still hasn't got around to that layout yet, so most of his modelling is done on a superbly designed modelling bench that packs about 5,900 accessible tools and construction aids around a half square metre modelling area.

Clive says ARHS and Australian Railway Enthusiast membership are invaluable for his supply of prototype information, especially important when you live outside the state whose system you model, although he does maintain a passing interest in the local prototype of the area to which he is posted. Of particular importance to him are the ARHS (SA) Recorder and the SARMA Buffer Stop, and for modelling information he has been a long time subscriber to Model Railroader, Model Railways and AMRM.

He can best be described as an all-rounder, preferring to use whatever material or technique that is appropriate to the model, unencumbered by inflexible thinking and fixed ideas. To each model he adds the grotty realism of the real thing, as exemplified in his Track articles. He is a developer and an experimenter, in search of new methods and ideas that will achieve the realism he desires.

CIRCUS TRAINS IN N.S.W.

by Bob Merchant and Paul Rogers

"At the head of the train were locomotives Nos. 31 and 25, all bright and shiny, as befitting such an important haulage duty . . . The hustle and bustle associated with the detrainment and entrainment of the goods vehicles was remarkable to behold, everything being orderly done to a carefully pre-arranged plan. Lines of washing dangled along the facades of several of the carriages marshalled at the end of the train, washing clothes being one of the trials of a transitory life. The arrival of the circus train was a special thrill to all of the youngsters and most of the oldsters of Weston and Cessnock, as can well be imagined."

— Description of a circus train operating over the South Maitland Railways in the 1940s by the late Arthur Dunstan.

Elephants helping to rerail 1246 is the only photo AMRM were able to find on circus trains in NSW. N.S.W.P.T.C. photograph.

Elephant wagon rebuilt (converted from) a timber framed 'CW' cattle waggon. N.S.W.P.T.C. photograph.

The operation of circus trains created a special atmosphere which is clearly demonstrated by the above quotation. The principal troupe using railway transport in New South Wales was Wirth Brothers' Circus and the information given below relates to this company of entertainers. There were many rural centres in the State which played host to circus trains over a great many years; this article, therefore, can only give a brief description of these occasions.

The compositions of these specials were most interesting and would make unusual modelling projects. While certain vehicles would need to be built from scratch, some of the models available on the market are suitable, in either bought or modified form, for re-creating these miniatures of yesteryear.

We have listed five compositions of circus trains which span the period 1910-46, probably the golden era of this type of transport task. The post-Second World War period saw increasing emphasis on road transport for circus movements.

The first composition details the circus train during 1910. The C type vans are thought to be louvred units: this classification, at that time, was used to denote both louvred and covered four-wheeled vans with capacities ranging from 6 to 8 tons. However, as later circus trains used louvred vans (by which time the separate LV coding had come into use), the vehicles mentioned in the 1910 report are undoubtedly of this category.

The TF car was a tubular framed bogie flat wagon with timber decking. These eventually disappeared from the scene, probably before 1950. Certainly, there is no mention of any vehicles of this type in the 1955 Goods Wagon Register. The remains of a TF wagon are located in the Rail Transport Museum at Thirlmere.

The CW wagons were of two types: those for cattle and those for elephants. Details of the latter category appear in a separate article. The BCW wagons were the bogie version of the conventional CW units.

The remaining vehicles of the 1910 train, with the exception of the brake van, were passenger cars. There was quite a variety of coaching stock: two Redfern cars (one first class, and the other, second); a BX type first class side door express car, commonly known as a dog-box; an AH Pullman sleeper, and an AJ composite sitting and sleeping car.

The Redfern cars were side door vehicles principally built during the 1880s for Sydney's suburban services. They had low pitched roofs, although some were later "improved" by the addition of a second roof. The BX car, first introduced in the early years of this century, was a member of a family of dog-box cars which numbered several hundred units. Most readers would be familiar with this type of car, of which several have been preserved. The AH Pullman was the first sleeping car design to be used on the New South Wales Railways. Introduced in 1877, the first cars were imported from the United States but locally produced units of this type were built by Hudson Brothers during the early 1880s. By 1910, such cars would have been rare, as several of these end-platform sleepers had been converted to suburban cars (with which they were almost identical externally). The AJ type composite and sleeping car was introduced in 1890; all cars of this type were later rebuilt to various types of stock: some of the frames now support "L" type saloon carriages.

The second composition dates from 1914. Here, the louvred vans have been allocated the coding of LV; the Redfern cars have been replaced; the quantity of TF bogie flat cars has been increased. A BF type first class Cleminson carriage has been included in the consist.

By 1916, the AH and AJ sleeping cars had been replaced by a pair of AM sleeping cars. These were end-platform Mann type vehicles built in 1904-12 as compartment cars, each cabin accommodating four people. All were later rebuilt as sitting cars.

A new code in the 1916 circus train was the four-wheeled K0 carriage truck, a reminder of the days when the railways carried private road vehicles. (The introduction of Motorail in recent years has turned the wheel full circle.)

The 1918 composition of the circus train was similar to that of the 1916 layout except for the removal of the K0 carriage truck and the addition of a TF flat car.

The FA car shown may have been the vehicle with a row of triple tiered bunks along each side of the carriage. This unit, FA.177, has been listed for preservation by the N.S.W. Rail Transport Museum.

Another sleeping car, FAM.1300, appears to have had a connection with circus trains. This vehicle was originally an EAM sleeping car which at one stage became a TAM (by code, not layout) prior to settling down as an FAM.

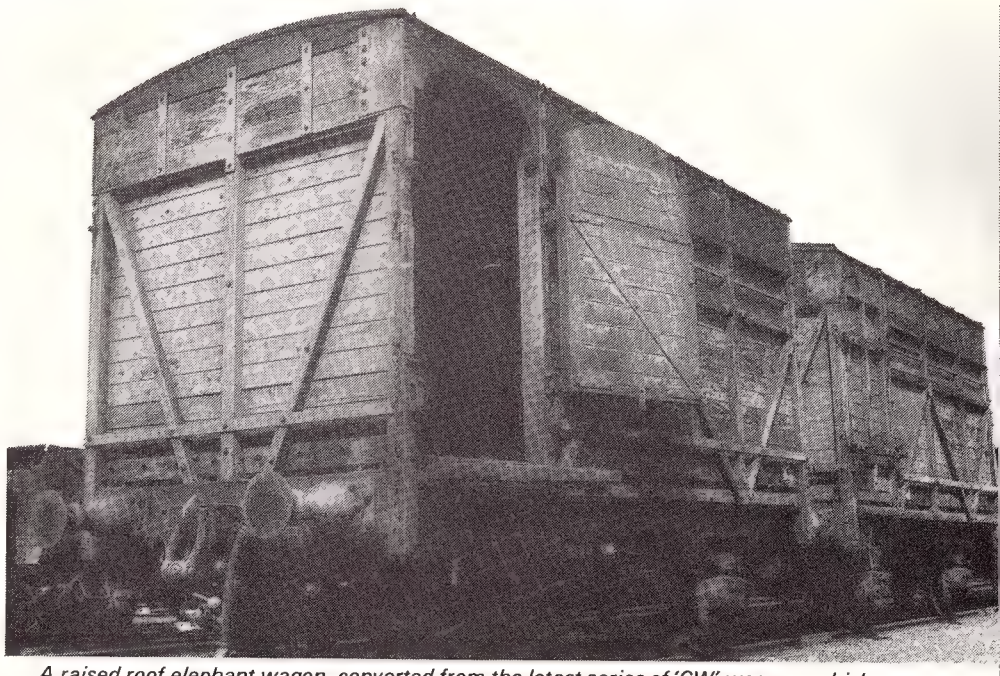
The final composition dates from the mid-

1940s and was recorded on the South Maitland Railways by the late Arthur Dunstan. By this time, it seems that the TF vehicles were becoming scarce, hence the inclusion of E and ME bogie flat cars in the consists. This composition constitutes a sizeable train and it appears that it was marshalled in such a manner to enable its division if required.

The BKO motor vehicle wagons, like the KO mentioned earlier, were numbered in the coaching stock register. The E and ME bogie flat cars were the ancestors of the conventional vehicles of today — the MLE and UME types. One of the EHO vans (1294) was the vehicle originally built as the sole KM type travelling post office van. The FA car later became instructional vehicle FZ.1269.

Motive power for the circus trains during the era in which the first four compositions are set was normally a T-524 (later D.50) class 2-8-0 tender locomotive although, in 1910, the train ran to and from Nowra in the care of a P-6 (later C.32) class 4-6-0 tender unit. There have been occasions, on certain branch lines, on which double headed B-55/B-205 (Z.24/Z.25) class locomotives have worked the circus train back-to-back.

Undoubtedly, there is a lot more information on circus trains in New South Wales; it is hoped that future research will bring this data to light.



A raised roof elephant wagon, converted from the latest series of 'CW' wagons, which were based on the 'S' wagon underframe. NSWPTC photo.

Circus Train Operation.

As indicated earlier in the article further research has unearthed some operational data of the Wirth's Circus special train in 1953/54. The details were compiled from N.S.W.P.T.C. records and S.T.N.s (Special Train Notices, a leaflet published by the NSWGR/NSWPTC to inform their operational staff of an impending alteration to normal operations).

The planning of the Wirth's Circus train to suit the programme was important to ensure that the circus was in town on the specified night. It is also obvious that some solid planning by the circus organisation was needed to incorporate as many towns on the railway line as possible. The circus seemed to spend the winter in Queensland, travelling in spring through NSW to Victoria, then back up through NSW to the NSW — SA border (Broken Hill) where it transferred to the narrow gauge for the South Australian circus season. As can be seen from the listing below varied motive power was used to haul the consist with in 1953 appeared to be EHO, FAM, five 1st class Cars (BX), FA 277, three BKO, nine UME, two BCW (horses), five raised roof CW for elephants . . . the total equal to 67 tons and 60 vehicles for crossing purposes. The special train ran in the early morning (eg 1am) for the tent had to be packed and loaded before the train departure.

As indicated the circus arrived from Queensland at Wallangarra on the 14th September 1953 and then ran through to Tenterfield, Glen Innes, Armidale, Uralla, Tamworth, Gunnedah, Boggabri, Narrabri, Warialda, Inverell, Moree, Quirindi, Scone, Muswellbrook, Singleton, Maitland, Cessnock (by special shunting trip on the SMR headed by SMR 10 class units), Newcastle (Honeysuckle Goods Yard), Gosford, Liverpool (Warwick Farm Racecourse), Campwelltown, Bowral, Moss Vale (hauled by D57 class), Queanbeyan, Canberra, Goulburn, Yass Junction (D57 plus assistance), Harden (D57 plus assistance), Cootamundra (D57 plus assistance), Wagga Wagga (D57 to Junee thence D53, D55 or Superheated D50 plus assistance to Harefield) and finally Albury on the 26th October 1953.

The circus arrived back in NSW from Victoria and South Australia on the 17th February 1954 at Tocumwal and worked through to Sydney (Alexandria Sidings) on the 28th March after stopping at Finley, Berrigan, Jerilderie, Narranderra, Leeton, Griffith, Ardlethan, Wyalong Central, Barmedman, Temora, Young (double heated D50 from Cootamundra), Grenfell (double headed C30T from Koorawatha), Canowindra, Cowra, Blaney, Orange, Wellington, Trangie, Warren (C32 class), Bourke (C32), Nyngan (C32), Narromine, Dubbo, Coonamble (C32 with electric headlight, any load in excess of 575 tons to worked forward by goods train), Gilgandra, Dunedoo (double headed C32 from Dubbo to Merrygoen, thence a single C32), Mudgee, Lithgow, Penrith and finally Sydney.

On the 3rd of May 1954, after a 36 day season in the 'big smoke', the circus train left Alexandria Sidings by a 57 or 58 class for Dapto needing a D53 or D55 assistance to Waterfall. After Dapto the train journeyed to Nowra, Kiama, Wollongong, Rockdale (oilburning D55 from Thirroul), Windsor (via Endfield & Lidcombe by a D53, D55 or superheated D50), Richmond, St. Marys, Katoomba (restricted to 600 tons D57 plus superheated D50 from Valley Heights, the additional 70 tons followed on No. 191 Goods), Bathurst (Oilburning D55 plus standard goods loco from Lithgow), Molong (oilburner D55 plus standard goods loco assistance to East Fork Junction), Forbes, Peak Hill (C32), Parkes, Condobolin, Ivanhoe, Menindee, and Broken Hill on the 27th May 1954, from whence it travelled on the South Australian narrow gauge and then onto West Australia.

Most stopovers were for one night only, but the larger town had a season of a few nights. The stopovers given are in sequence and a casual glance at a NSWGR map for the period will show the number of miles travelled. There was only a few sections of NSWR metals now covered by this unusual special train, one good reason to include a model special on your layout.

Acknowledgement is due to the Australian Railway Historical Society for permission to publish information which originally appeared in the late Gifford Eardley's book "The Railways of the South Maitland Coalfields". The research for this article was mainly conducted by Bob Merchant.

Further Suggested Reading:

a. G. Johnson, 'The Mystery of the Cleminson Cars', A.R.H.S. Bulletin No. 406 (August 1971), pp. 186-89.
b. P. Rogers, 'EAm, FAM and LAM Mann type End-Platform Sleeping Cars', The Railway News Vol. 28 No. 3 (May/June 1976), pp. 55-57.
c. P. Rogers, 'VAM and AM Mann type End-Platform Sleeping Cars', The Railway News Vol. 28 No. 4 (July/August 1976), pp. 75-77.
d. J. Bevan, 'Stock Cars of the N.S.W. Railways', A.M.R.M. Vol. 7 No. 5 (September/October 1975), pp. 29-33.

CIRCUS TRAIN COMPOSITIONS

1910: locomotive, 2C, 8 TF, 4 CW*, 2 BCW, BH, FN, BX, AH, AJ, bogie goods brake.

1914: locomotive, 2 LV, 10 TF, 5 CW*, 2 BCW, FA, 3 BX, BF, AH, AJ, bogie goods brake.

1916: locomotive, 2 LV, 8 TF, 4 CW*, BCW, KO, FA, BX, BF, AM, AM, bogie goods brake.

1918: locomotive, 2 LV, 9 TF, 4 CW*, BCW, FA, BX, BF, AM, AM, bogie goods brake.

1946: locomotive(s), ME.1398, ME.21120, ME.21062, ME.20712, E.21003, TF.7580, TF.7581, TF.7579, TF.7583, BKO.735, BKO. 2039, CW.9500, CW.8798, CW.7696, CW. 14696, BCW.22450, BCW.22457, HG.15002, BKD.747, FA.1269, AM.1458, CX.592, CX. 794, BX.910, BX.2048, BX.1716, EHO.1294, EHO.1468.

* The number of elephant vans was:
1910 — 2
1914 — 3
1916 — 3
1918 — 3

All CW wagons listed in the 1946 train were elephant vans.

AMRM NEWS

Compiled by Bob Gallagher and AMRM Staff.

No doubt most observant readers have noted that this issue is a little thinner than last, the reason being fully outlined in AMRM NEWS last issue. It was pleasing to note the concern of one reader who is fearful that the larger issues may deplete the supply of good articles. Happily we can refute his fear for we have a good stock of quality articles, although we do need layout descriptions and more ideas on modelling technique. Despite the good stocks of articles we are always in need of articles to guarantee continuation of publication.

Commercial News

As these notes are written, news is to hand that the advance shipment of Berg's NSWGR C32 class is to hand, the model sighted being to the usual standard.

From all reports the LIMA Indian Pacific power car plus a surprise for HO Australian modellers should be available from some shops this year. The power car has been a long time coming, the reason being a lack of available detail. It is pleasing to note the interest LIMA is showing to detail accuracy.

The FSM NSWGR D55 class goods locomotive will soon be on hand and available to the general public. While we have yet to see the model first hand we have been advised that a number of detail parts have been produced by the 'lost wax' method.

Late in May, Doug and Gill Bocking, the manufacturers of Workshop 5 Models, returned to the UK for family reasons. The move had been planned for some time but the final journey was a few weeks earlier than anticipated. Any readers who have any outstanding orders with Workshop 5 Models are directed to detail the problem in a letter and direct it to T.C. Rail Models, who will assist in clearing up any problems. Will Mr McNee and Len Gibbons contact T.C. Rail Models.

Continued on page 43

N.S.W.G.R. ELEPHANT WAGON

Readers of the article 'Stock Cars of the N.S.W. Railways' which appeared in the September/October 1975 issue of this magazine will recall mention being made of the CW four-wheeled cattle wagons which were rebuilt for the carriage of elephants.

These modified CW vehicles were intended mainly for circus train working. However, they have also been noted in traffic as conventional cattle wagons. The CW design was altered by the enclosure of the sides and ends, the addition of enclosed panelling above the open section on each side of the unit, a timber roof (in contrast to the corrugated iron covering on standard CW vans) and a high arch door on each side of the wagon.

It is thought that the last of these modified CW wagons was retired several years ago; however, as information on the elephant vans is limited at the present time, some readers may be able to supply further data about them.

There were at least 6 CW vans used for elephants: these carried road numbers 4650, 7641, 7696, 8798, 9500 and 14696. Some of the compositions in which they appeared as circus train wagons have been given in the article entitled 'Circus Trains in New South Wales'.

Paul Rogers

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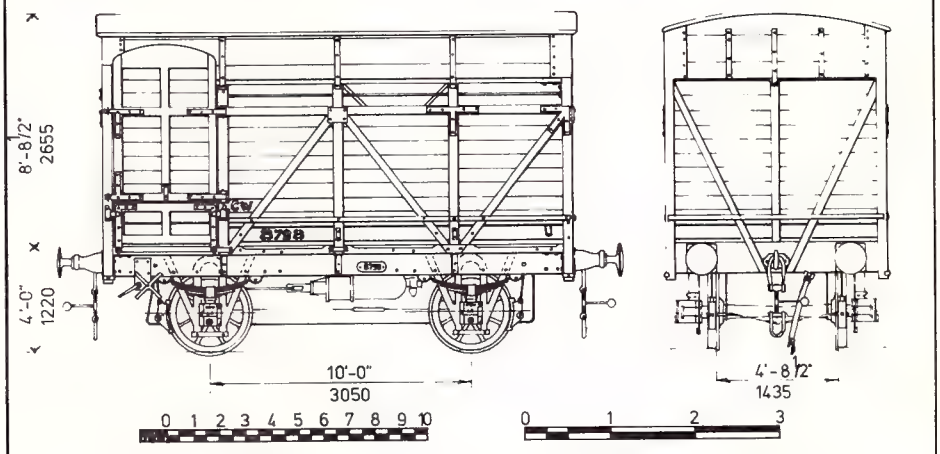
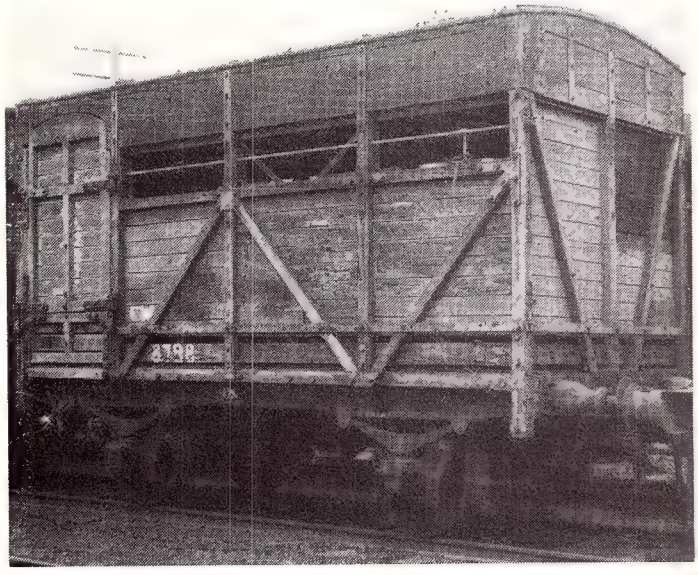
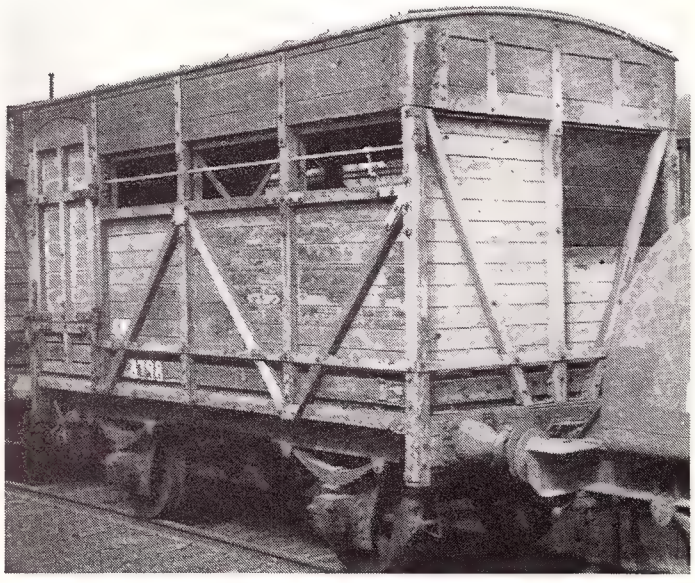
Reference:
Carrying Capacity of Goods Wagons, Coal Hoppers, Horse Boxes and Motor Trucks dated July 1955.

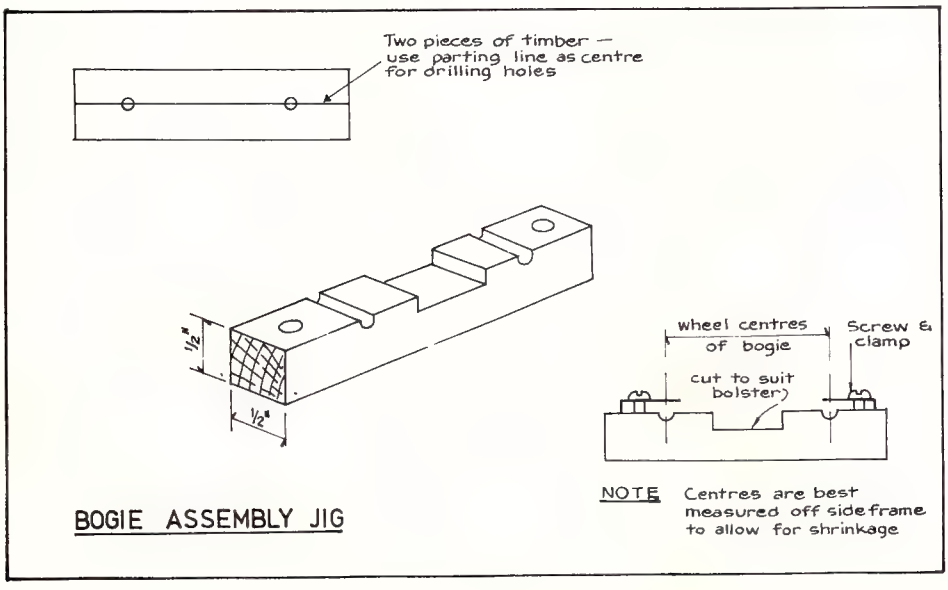
NSWGR 'CW' Elephant Wagon
Drawn: Roger Johnson







EPOXY BOGIE ASSEMBLY JIG.


Two pieces of timber — use parting line as centre for drilling holes
½"
½"
wheel centres of bogie
Screw & clamp
cut to suit bolster)
NOTE Centres are best measured off sideframe to allow for shrinkage

BOGIE ASSEMBLY JIG

This jig was developed to assist with assembly of epoxy cast bogies and has been of great assistance in assembly of the Workshop 5 Models kits.

To make the jig start with two sections of ½" square timber; place them together and hold with a G clamp, then mark the required axle centres on the join of the two sections and then drill a hole on each point the size of the axle diameter. Form a brass or steel clamp out of 3/8" x 1/32" material, bend one end and drill the longer area for a wood screw.

For Use: Put selected wheels into holes after pushing the clamp to one side. Clamp the wheels in place via the wood screw and then hold the side frames to the axle points measuring and setting the bolster to length, then glue with 5 minute epoxy, still holding the side frames to the bolster. When glue has gelled, remove clamps and run bogie on a section of glass for checking. The bogie will be square.

Graham Ball

MODELLING PROJECT

V.R. 'TP' INSULATED VAN

The VR 'TP' van is really a long-wheelbase 'T' van fitted with a bogied chassis. Like the T's they are classed as an ice-refrigerated van for perishable goods. There are only five in the class, numbered TP 1 to 5. There are two types of body: those with four doors per side, as in the photo, are the first type. No's 1 to 3 comprise this group. The other two vans have only one double door per side.

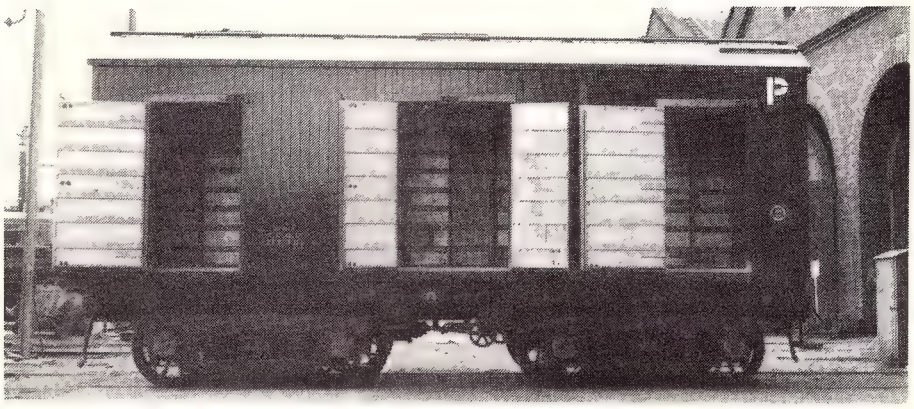
The van designation 'TP' comes from its T van parentage and from the 'P' symbol at the top right corner of the van side. This says that the vehicle is suitable for running in passenger trains, at speeds of up to 70 miles per hour.

The TP's spend their time as the last vehicle of Mildura line passenger trains. They therefore carry the standard VR 'end of train' indication of a white disc. Unfortunately, they are not as stable at high speed as longer wheel-base vehicles, and occasionally derail themselves. Life must be exciting for the guard when a TP leaves the road at speed. (NB 'Speed' is the name of a small town on the MILDURA line.)

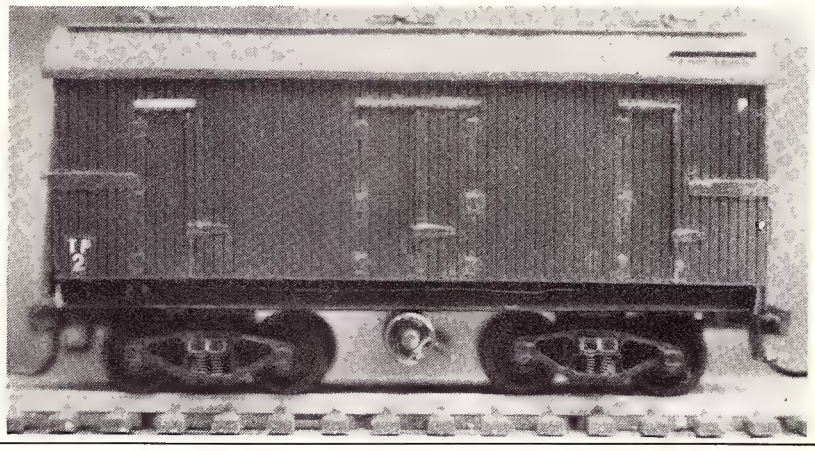
Model Construction:

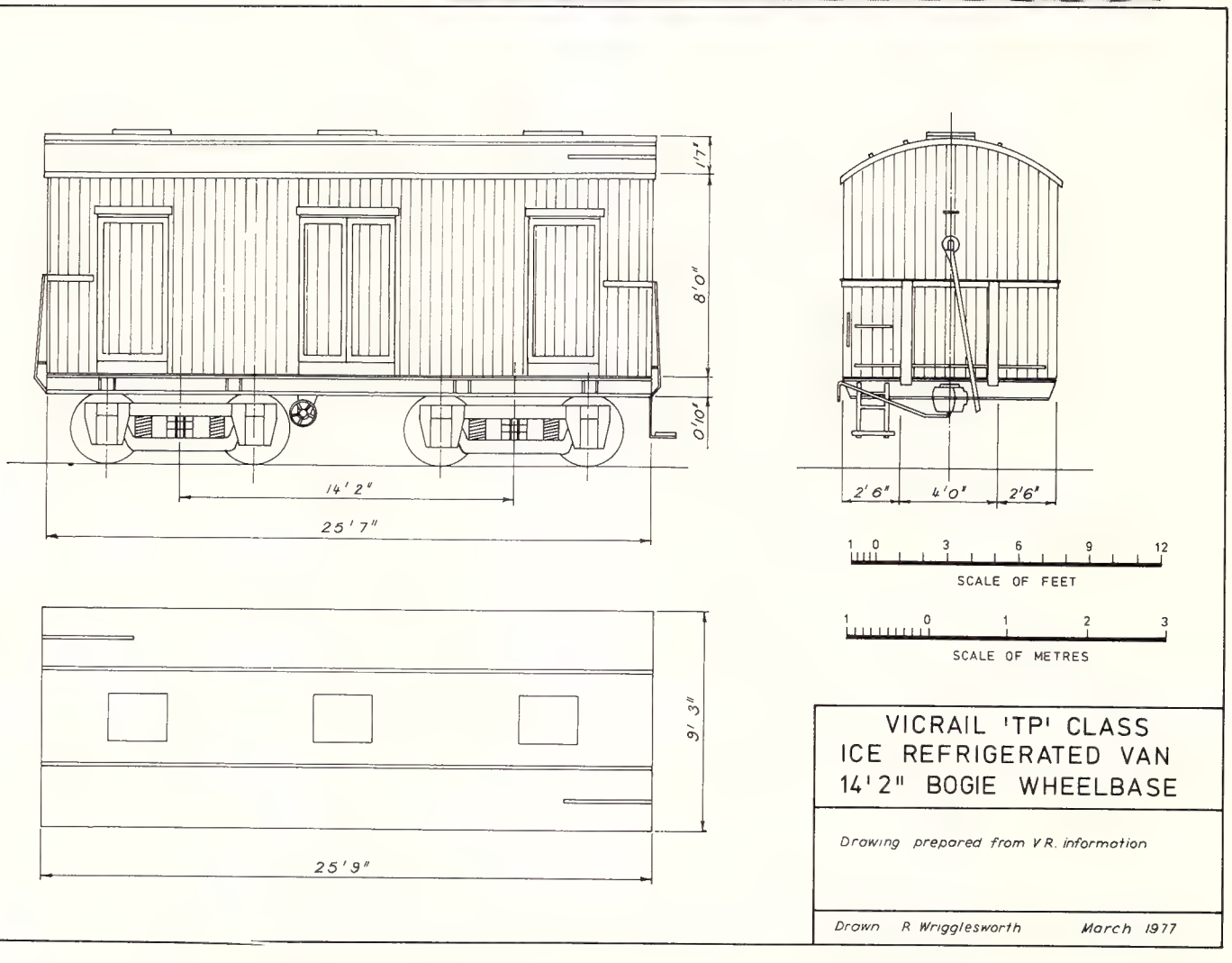
Use the methods described for the T van in Charles Huggard's article in the September/ October 1977 AMRM. The only major difference is the provision of a bogied underframe. Before you set out to mass produce some, remember there are only five TP's against a few hundred T vans! However, the TP's are much younger than the wooden-bodied T's; the TP's first appeared in 1958. Don't forget, too, to provide for a white tail disc.

Compiled by Peter Vincent & Ian Weickhardt



The four-door sided TP insulated van, snapped outside Newport Workshops shortly after completion. Note that the wheel-style handbrake is near the centre of the frame, instead of at the end as on the 'long' T vans. VR photograph.





REVIEWS

Diesel Pictorial, by John Dare. Our sample purchased from N.S.W. Rail Transport Museum, Sales Division, Post Office Box 31, Burwood, NSW. Price: $3.50. (Posted — $4.00).

This 60 page book which measures out at 280 mm (11") high by 215 mm (8½") wide has been published by the Australian Railway Historical Society, Victorian Division, to commemorate 25 years of diesel traction on the Victorian Railways (1952-1977).

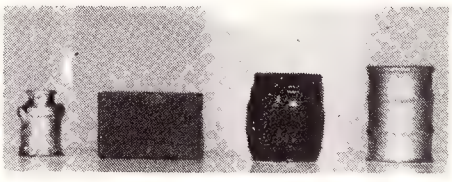
Photographic contributions are in black and white and come from many individuals, Associations and Departments — too many, in fact, to list here. John Dare, the editor, has really been selective with what appears in print. A "Foreword" by Donald Potts gives a brief outline of the various classes which make up the V.R. diesel fleet.

As its title states, it is a diesel pictorial, with a bit of electric working tacked on at the end for good measure. It is fully Victorian in content except for an odd shot or two at State border locations. It depicts diesel working on both broad and standard gauge, named trains, multiple unit operations, diminutive shunting work, spectacular crashes and much, much more. Generally there are two photos per page.

No two camera angles are the same, and a good number of photos are done with telephoto lenses, some with startling and impressive results. Due to the clarity of its pictures the book is a handy source of reference for the modeller.

It is the first fully diesel pictorial book that I have seen and, in my opinion, sets a precedence that is going to be hard to follow. Above all, I am told that it is selling extremely well. That, in itself, shows the book's quality. Thoroughly recommended.

Allan Brown.



Drums, Barrels, Boxes and Milk Cans in HO scale by Scale Line. Our samples supplied by Scale Line, P.O. Box 168, Revesby N.S.W. 2212. Price: $1.50.

Scale Line, relatively new to the Australian scene, is producing a range of lineside paraphernalia, supplied per package, painted ready for use. Although the items are not supplied in a mixed package, for the purpose of this review they will be reviewed together.

The drums (44 gal.) are supplied, 10 to a packet, all pre-painted (brown, silver, white and grey). The metal castings are 3' × 2'1" diameter and detail includes side ribs. The drums are a little oversized but this does not detract from the overall impression of a "44". These are used to carry a multitude of materials (fluids) and can be found either end on end, or side by side in 4 wheel open wagons. Colouring of drums is also varied and some petrol companies have the company emblem painted on drums carrying their products.

The Barrel is styled on the old wooden beer keg and is 2'10" high with a curved side which is 2'3" at the centre. Painted dark brown and supplied in a packet of 10, the barrel could have many uses on a layout. The mould separation line is evident, even though the paint tends to camouflage the flow.

Boxes come in many sizes, for usually they are only made big enough to carry a component. This packet of 10 boxes does vary in size (to be specific, the depth of the box varies) and measures 3'3" × 2'; the depth varying between 1' and 1'8". Painted brown (gloss), the metal casting is a good representation although some weathering could be applied to the paintwork.

In pre-bulk delivery days milk was transferred from the farms to the main depot and then to the public via milk cans. The metal castings, 11 to a pack, are pre-painted (silver) and detail does include the carrying handles and the lids. Overall the can is 2'2" high with a body diameter of 1'5". The casting is a good representation of a much used can.

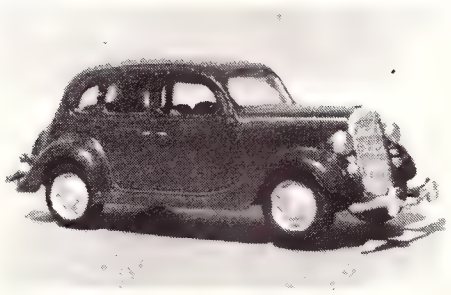
Bob Gallagher.

1935 Ford V8 Sedan — Mountain States Model Works — Available from Keith Hudsons Modellers World.

This kit makes a reasonable HO scale model of the four door sedan from a set of polystyrene mouldings. Included is a set of rail wheels, a snowplow and other options for police car, taxi or fire chief's car.

A most comprehensive set of instructions is supplied but disappointing is the quality of the mouldings.

Assembly was straight forward except that about two hours were spent on preparation of the body shell and even this is inadequate. We spent an extra



half hour glazing all windows, except the two front doors, and the increase in realism makes this worthwhile. Disappointing is the absence of the bonnet side grilles, but this is no doubt because a simple two piece mould is used.

The completed car was painted navy blue with a dark grey fabric roof section and silver wire wheels. Testor's Silver was found to be suitable chrome substitute for hubcaps, bumper bars, etc.

I believe this to be a kit of good value for 30's or 40's modelling but only if time is taken to achieve a good result.

Max Chaseling.

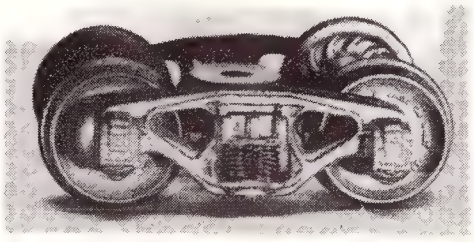
H and M FLYER control unit. Our sample supplied by Platform 3, Sydney. Price $26.95.

This unit is suitable for connection to our standard 240V A.C. mains. It has outputs of 12 volts D.C. controlled and 16 volts A.C. uncontrolled. Rated output is 9VA maximum or about 0.75 amps. This should be adequate for almost all proprietary locomotives and should be suitable for double heading others such as Lima, and Jouef.

The circuit utilises a conventional resistance mat for speed variation connected to silicon diode rectifiers. This combination provides a pulse type output but without all the starting properties of transistor throttles. The unit is fully protected by an "Autotherm" Automatic Self-setting Thermal Overload Cut-out, which resets itself when overload is corrected.

The unit was tested for several hours with both HO and N locomotives and proved to be very satisfactory. Slow speed performance is quite reasonable. This is a well made unit and should be very popular with train set buyers and modellers looking for a second control unit. At the price it is very good value.

T. Moore.



Bettendorf Bogies in HO scale by Kadee. Our sample suppled by the importer, Ferara Distributors, 5/8 Olive Grove, Dandenong Vic., 3175. Price: $3.70 a pair.

The Bettendorf bogie is the unit found under many modern goods wagons on most railway systems in the world. They have cast side-frames which are equalised by means of 2 or 3 coil springs between the side-frames and the bolster. In most instances the axles run in brass/bronze bearings. The Roller Bearing bogie is a further development where the roller bearing replaces the static bearing.

The Kadee version has cast metal side-frames, which are equalised onto the bolster by means of 2 coil springs each side. The equalisation is fully operative. The wheel base is 5'6" and the wheel diameter is 33" with NMRA RP25 profile. Both axle and wheels are manufactured from non-magnetic material, hence less problems with Kadee permanent magnet uncouplers. Attachment to the body bolster is via a hole in the bogie bolster. This is constructed so as to remove any side play on the retaining screw. The tracking and rolling qualities of these units are first class.

Bob Gallagher

Magnetic Automatic Couplers in N Scale by Kadee. Sample supplied by the importers, Ferara Distributors, 5/8 Olive Grove, Dandenong Vic., 3175. Price $3.90 per 2 assembled sets.

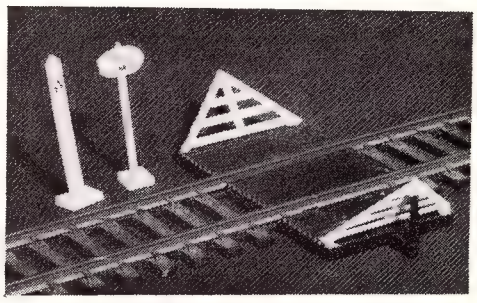
Automatic couplers have become a necessity for many modellers in most scales for they provide a means by which uncoupling and coupling vehicles can be accomplished, without the use of hands or jiggers. The Kadee brand of coupler was introduced to the N scale modeller during the early commercial development period of the scale; the couplers then being supplied in kit form which will be covered in a later review.

The units under review are pre-assembled and supplied 4 to a pack; this pack includes 4 mounting screws. The couplers are made from a delrin plastic with the exception of the steel actuating pin. Full details for mounting the couplers are printed on the back of the package, these details include hints for correct usage.

Basically the coupler is made so that the knuckle will open and "clasp" any other similar coupler that makes contact (a further explanation could be to describe it as a "hand-shake"; the two hands being the coupler heads). Uncoupling is achieved by opening the head, this is facilitated by a metal pin which is attached to the head. The pin hangs down from the coupler head (giving the appearance of an air hose) and can be moved by magnetic force. This force is supplied by a magnet (either permanent or electric) which is either in, or under the track bed. The magnetic force, operating across the track, attracts the pins which open and allow uncoupling; the locomotive can then haul the remainder of the train away. Fly shunting can also be achieved by firstly drawing the train away from the uncoupled wagon and then pushing back, the coupler not joining upon return, the uncoupled wagon can be "spotted" where required. The terminology given to the coupler is "magne-matic".

Kadee couplers are intricate and need to be accurately mounted and free moving but once Kadee couplers have been used on a layout they are rarely discarded.

Bob Gallagher

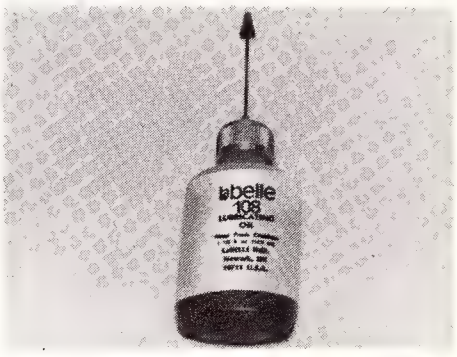


HO Cattle Guard by Kadee. Our sample supplied by the importers, Ferara Distributors, 5/8 Olive Grove, Dandenong Vic., 3175. Price $1.50.

Cattle (stock) guards (known as grids in Australia) are in use on most railways. They act as a barrier to restrict the 4 legged critters from straying onto the railway per-way. They are used in conjunction with fences and in fact the 'guard' is used in place of a gate. The unit is a model representing a pipe guard and is 31mm by 51mm long. The pipes are black moulded styrene while the fence, on the side of the guard, is white. The unit is easily put into place by removing sleepers on the flexi-track and then placing the track over the top of the guard. The centre section clears the wheels adequately, the overall width being 13.5mm.

Accompanying the guard are two 9' whistle posts and 2 Yard Limit posts, all with mounting bases.

Bob Gallagher



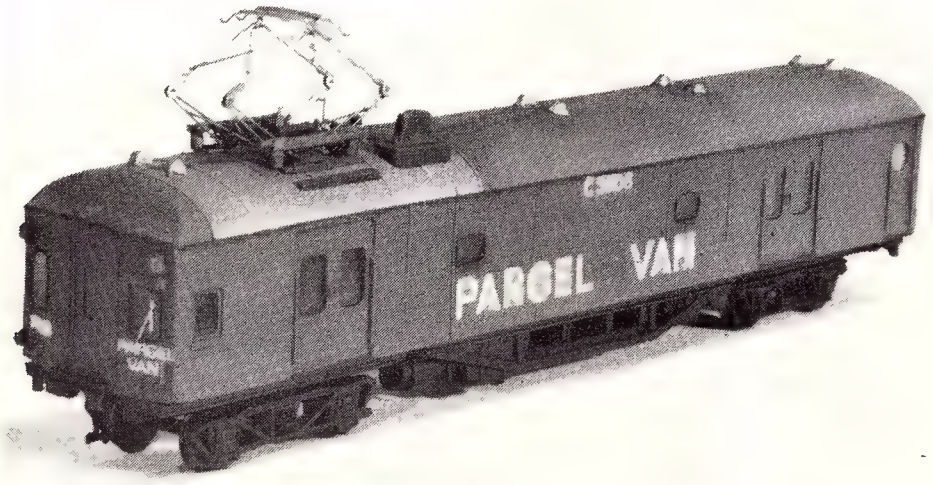
La Belle 108 Multipurpose Oil. The sample was supplied by the distributor, Ferara Distributors, 5/8 Olive Grove, Dandenong Vic., 3175. Available from most hobby shops. Price: $1.69.

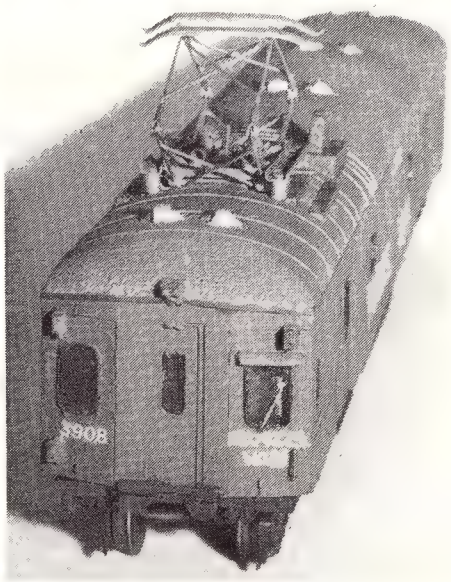
Oil is a very important substance for smooth running model railway layouts. The only problem is that plastic is widely used and, in many instances, the light oils in use are not compatable with plastic material; when the oil gets onto the plastic the reverse action occurs. La Belle 108 is a plastic compatible lubrication and has many uses. This light oil is superb on motors, bearings, gears, valve gear, pinpoint axles and for cutting and tapping in metal and plastic. The oil is packaged in a 1½ fl. oz. plastic bottle which is fitted with a 0.75mm O.D. delivery pipe (nozzle), the point of which is protected by a plastic tip. The oil is easy to apply from the bottle, which is important for any spillage is messy, but the La Belle 108 is non-staining.

Bob Gallagher

SYDNEY SUBN ELECTRIC PARCEL VAN. HO scale body kit only. Our sample supplied by Keith Hudson's Modellers' World, 75 Goulburn Street, Sydney 2001. Price: $7.50.

Three electric cars, built by the Walsh Island





dockyard for the sole purpose of carrying parcels, were introduced to the Sydney electrified system in 1928. The need for more cars resulted in a number of Bradfield type electric suburban cars being converted. This model is one of the Bradfield type — C3908 (now C3558) and is a very good replica of this van.

The casting is done in a polyester material and is free of flash and accurate to size. The kit supplied was not sticky and had very good detail right down to the windscreen wipers on the driver's windows. The roof has a flat to take an AYK type pantograph ($1.55 — not supplied with the kit). The model can be motored with a Lima motor bogie and the floor casting is shaped to take this motor. Non-powered bogies are available as in photo at $1.30 per pair.

This is a very good kit for beginner and modeller alike.

Graham Ball

RETURN TO ROSSTOWN by D. F. Jowett and I. D. Weickhardt. Published by the Rosstown Historical Research Group, P.O. Box 231, Mordialloc. Price: $10.50

Despite the fact that most major railways operated in Australia under Government ownership, there were many small rail systems that were privately owned. Some were built and still run under private ownership till today; some were only pipedreams in the head of the owner, and some were built and never used. Return to Rosstown describes in detail the attempt to establish the Rosstown Estate which included industrial and residential complexes. Rosstown was so named after William Murray Ross, who is really the main character in this book. The railway was the planned transportation mode to service the factories, the land and the sugar beet ventures in Caulfield, a little east of Melbounrne.

The book is thorough in its research, covering many unusual aspects. The text is illustrated with plans, maps and photographs of structures and locomotives that ran on the line during construction. Needless to say this book will not interest every one, but the polotical and social ramifications make it impelling and interesting reading.

Bob Gallagher.

Capacitor Discharge power pack for points, from Locomotion, 14 Jennifer Cres, Thirroul. 2515 who supplied the sample for review. Price: $16.65.

In this day and age (which will no doubt become known as the 'Electronic Age' in years to come) electronics have become an important aspect in the model railway hobby. The electronic controller is virtually unbeatable and many other applications have made model railway operation more realistic. The Capacitor Discharge unit is not new as an idea but it is new to the range of locally manufactured Locomotion Products. A capacitor discharge unit is a device that stores an electrical charge to provide a sturdy (strong) supply of electricity when required. In application it is superb to use for changing point motors which require only a momentary supply (or charge). Point motors from Peco and Marklin are among the large number of commercial units available to the public. The Locomotion unit is supplied on a printed circuit board that can be mounted inside the control panel. Connection, by following the detailed instruction sheet, is simple, for easy connect clips have been provided for hooking up the unit. The unit seems to have amazing recovery powers and has the capacity to operate more than one point at a time. All that is needed to put the unit into operation is a 12 volt A.C. power supply, some electrical point motors and some momentary contact switches.

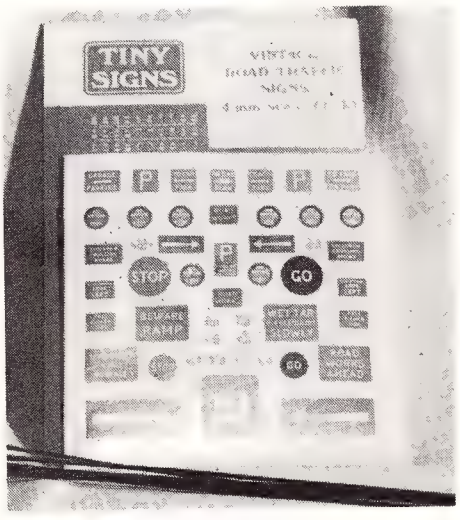
Bob Gallagher.

NSWGR C35 Class Locomotive and Tender Plan in HO Scale by DATA SHEET, 21 West Street, Paddington NSW 2021, who supplied the copy for review. Price: $1.20

The C35 Class passenger locomotives were introduced to the NSWGR in 1938; they were not new locomotives but were rebuilt from the NN(1027) class. Alterations made during the rebuilding included heavier frames, new cabs and a valance added below the running board. The class was used mainly on passenger duties and in their latter years were confined to the northern lines. Towards the end of their working life some locomotives of the class were outshopped with turret tenders.

The DATA SHEET plan is of the class leader, 3501, as converted from the NN fitted with its original tender. The plan includes front, rear and side elevations of both loco and tender as well as side and top cross-sections. The rear elevation of the locomotive also shows all back-head detail. The plan shows a great deal of detail and yet still manages to be clear and easy to follow. Two photographs and some written information are also printed with the plan. Although the photographs on my copy tended to be a bit dark, all piping detail was discernible.

Stuart Livesey



Tiny Signs Vintage Road Traffic Signs. Our sample supplied by Hobby Craft, PO Box 88, Ivanhoe, Vic.

These come in a clear plastic zipper top pack and contain a selection of British Road signs of the 1950s era. They are printed in two colours on white card. Included also are six plastic posts and, of interest, one sheet of etched brass fret toppings for the signs and a detailed instruction sheet. Scale is 4 mm. The road signs are of British design and several are reminescent of early Australian signs and are suitable for the era 1940-1950.

Bill Slarks

Look Out For Another Train, published by the Queensland Division of the Australian Railway Historical Society. Box 682 GPO Brisbane 4001 who also supplied the copy. Price: $4.20

This book is aptly described by the leader inside the front cover 'A Pictorial Tribute to the Steam Era in Queensland'. The 56 page 240 mm × 182 mm book comprises of numberous black and white illustrations showing various facets of Queensland steam. There are 8 coloured illustrations that tend to maintain an overall standard, for some of the black and white prints are very poorly reproduced in that they lack contrast, seemingly a problem in the printing process. The book is broken up into seven sections some of them being Depots, Closed Lines, Tramways, Suburban, Secondary Lines and Main Lines.

For the modeller there is plenty of prototype detail included into the scenes depicted by the photographs and, as such, they are of use to assist in detail modelling. While the locomotive is the prime target in most of the scenes, many show useful detail wagons and rolling stock used in the steam era. A very useful booklet for the reference bookshelf.

Bob Gallagher

Collector's Guide to Model Railways by James Joyce, distributed in Australia by Thomas Lothian Publishing, Sydney and Melbourne. $11.25.

Read James Joyce's Collector's Guide to Model Railways and you could be surprised to discover you have a model classic racing around your layout, or horrified that the ugly tinplate loco you threw away after years in an old box is a collector's piece.

Mr Joyce's 'catalogue' of vintage model locomotives, rolling stock, scenery and accessories is worth reading if only for its history, tracing the model makers who have survived and some who haven't.

He covers 15 gauges and locos from the dribblers —live steam, spirit-fired "toys" which sometimes did not need tracks, but you could see where they had been — to today's plastic creations.

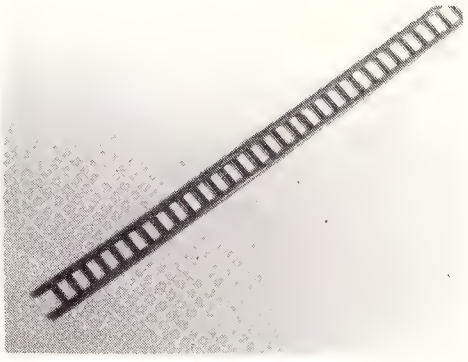
A rescuer — as his book's blurb puts it — of old models, Mr Joyce obviously has a special place in his heart for tinplate locos and reserves and special place in his book for what he calls the golden age of tinplate.

From the first recorded model loco, a small steam engine made by an American inventor, John Stevens, in 1825, the book covers in detail the products of Bassett-Lowke, Bing, Leeds and names more familiar to modern modellers, Marklin, Tri-ang and Hornby.

One of the interesting sidelights shows how Hornby (founded by Frank Hornby who invented Meccano in 1901) and Tri-ang eventually became one and then split and Hornby carried on after 1972 when the Tri-ang group was broken up.

For the collector, Mr Joyce details what to collect, how to collect it and what to do with it once you have collected it.

The book's 140 pages are adequately illustrated with photographs and prints of old catalogues, but at $11.25 (it's £3.75 in Britain, where it was published) it is almost priced into the collector's list itself.



HO Scale Ladders by Plastruct. Distributed in Australia by Zimbler Pty Ltd, 48 River Street, South Yarra, Vic. 3141. Sample supplied by the distributor. Price: 92c each.

This Plastruct unit is an injection moulded product in ABS plastic. Total length is 125 mm while the width is 6.3 mm. The rungs are 3 mm apart. The side supports are approximately 1 mm square while the rungs are approximately .75 mm in diameter. The Plastruct catalogue describes it as a HO scale ladder and it is near the size of most large (heavy) ladders in use in Australian industry. The ladder can be cut and

bent to shape, the plastic being easy to work. It is supplied in a dark grey colour.

Plastruct also manufactures ladders in ¼", ⅜", ½", and ¾" scale and these are supplied in 304.5 mm lengths. Also made in ¼", ⅜" and ½" scales is a ladder with cage surround as used on the outside of large towns and chimneys.

Bob Gallagher

HO Scale Wooden Barrels by Campbell Scale Models. Sample supplied by Ferara Distributors, 5/8 Olive Grove, Dandenong Vic 3175. Price: plain $1.45, painted red $1.75.

Before modern manufacturing methods supplied the steel, plastic and aluminium storage containers used today wooden barrels were commonly used to transport liquid or solid produce. Basically the barrel consisted of a number of staithes bound by hoops. These hoops together with a top and bottom forced the barrel into a cylindrical shape. A bung was usually inserted in a small hole on the top of the barrel or the whole top could be removed. In Australia beer was commonly carried in 'kegs' until modern steel and aluminium kegs became available. The commodities carried in barrels were numerous; they were often carried in open wagons — sometimes with tarpaulins covering them. The barrels were off loaded at warehouses or goods sheds and a small group of barrels at a goods shed would add realism to the area.

The model, of which there are twelve to a pack (a plastic envelope and card flap) are turned from wood. Although the individual staithes are not evident, the hoops are quite visible; the barrels scale out at 3' high by 2' in diameter at the ends, the centre of the barrel is 2'6" in diameter. The top is recessed while the base is level with the sides. Some units are painted red and are packaged separately.

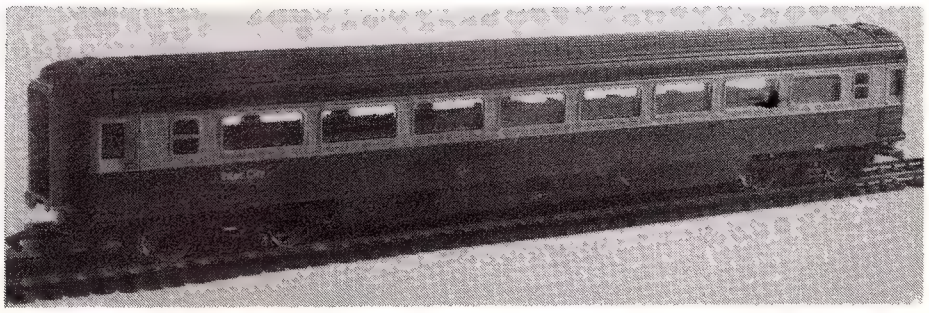
Bob Gallagher

JOUEF — BRITISH RAIL class 40 diesel locomotive in OO scale. Our sample supplied by El Toro Toys, 43 Currawang Street, Concord West, NSW. Price: $29.95.

The prototype was built by English Electric Co. in 1958/59 and was number D200 to D399. It is powered by a 2,000 hp 16 cylinder diesel engine for a top speed of 90 mph and is used on the London Midland, Eastern, North-Eastern and Scottish main lines

The model is of the usual Jouef all plastic construction, the body being held to the frame by a single centrally located brass screw.

Detailing is as usual for this manufacturer of a very high standard. All windows are glazed and windscreen wipers are embossed on the windscreens.



Jouef have overcome the difficulty of allowing the long coupled wheelbase bogies to negotiate tight curves by splitting the wheelbase in such a way that the innermost axle is pivoted separately, as is the front pony-wheel axle, making it in effect a 1B1-1B1 arrangement.

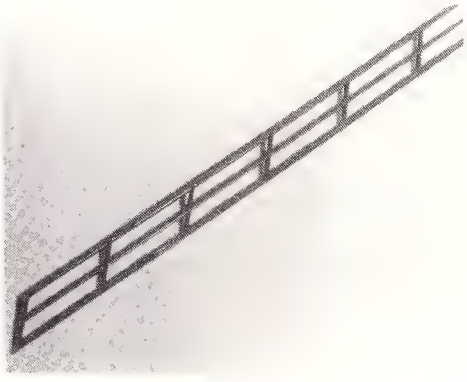
The five-pole motor is angled at approx. 45 degrees to the horizontal, driving through a system of worm and spur gears the two inner axles of the power bogie.

Current is picked up by all wheels of the unpowered bogie. Metal weights over both bogies aid in traction and current pick-up.

Twin working headlights front and back change with direction and white route indicators are provided, while the model is in correct blue and yellow BR livery with numbers and BR logo which appear to be painted on.

Performance of the model was quite a surprise and could not be faulted, whether slow running or on top speed which appeared close to scale speed. On test it pulled 10 of the new Jouef BR mark III coaches without difficulty, and manoeuvrability and quietness of the mechanism was a delight. Three types of couplers are provided with the model, namely tension-lock, Peco and NEM types which all snap fit. All in all a very good model and congratulations to Jouef.

Nick Ellmer



HO Scale Stair Rails by Plastruct. Distributed in Australia by Zimbler Pty Ltd, 48 River Street, South Yarra, Vic. 3141. Sample supplied by the distributor. Price: $1.00.

Most stairways, whenever used to gain access to a reasonable height, have hand rails at least on one side of the stairs. The Plastruct unit, 150 mm in length, is supplied in a basic grey colour and is injection moulded in ABS plastic. The rails are supplied for stairs that rise at 45 degrees to the horizontal. The rail is 9.5 mm high and has rises at 18.9 mm intervals. The thickness of the material would represent 4" × 2" timber. Also produced is 24" lengths of stair rail for ¼", ⅜", and ½" scales.

Bob Gallagher

JOUEF — BRITISH RAIL Mk. III coaches in OO scale. Our sample supplied by El Toro Toys, 43 Currawang Street, Concord West, NSW. Price: $6.95.

Jouef's entry into the OO scale market with BR's 40 class diesel has been followed by the introduction of a 1st class and a 2nd class modern style inter-city coach. The model is of the modern FO and TSO inter-city coaches for mainline working and are in the correct BR blue/grey livery with semi-matt black roof and with the characteristic ribbing moulded on.

Bogies, battery boxes, generator, etc., are in the correct brown colour while the end doors are prototypically recessed. All windows are glazed and both types of coaches have full interiors, blue for 1st class, light brown for 2nd class.

Metal wheels and axles are provided making it possible to provide interior lighting if so required and, as with the diesel locomotive, three types of couplers go with each coach.

As on the prototype, the ends are black with grey imitation diaphragms, with correct lettering printed on the black ends.

The model appeared in all dimensions very close to scale and was very free rolling. All in all a worthwhile addition to a BR model layout.

Nick Ellmer

N Scale Structure Kits by Builder Plus. Distributed in Australia by Zimbler Pty Ltd, 48-50 River Street, South Yarra, Vic. 3141. Samples supplied by the distributor. Price $2.25.

These cardboard kits have been available for some time, but are an improvement on the style of Builder Plus kit that was reviewed a few years ago in AMRM. Apart from glazing, all components are supplied on a pre-coloured card sheet. Most sections are part punched-out so that they can be readily removed from the main sheet by cutting the few retaining lugs with a sharp knife. All windows and door apertures are similarly pre-punched. Some small items (lintels, windows, sills, signs, etc.) need to be cut from the sheet.

This can be easily accomplished with a metal straight edge and a sharp blade.

Once separated from the main sheet all edges on the individual components need colouring; simple water paints (that can be found in any child's toy box) are recommended. Doors are supplied and can be made to swing, adding a little realism to the model. Windows are supplied in the form of pre-painted acetate sheet and individual panes can be cut from the sheet with a sharp knife. Some interior detail is supplied but this is restricted to printed floor coverings and some internal wall detail.

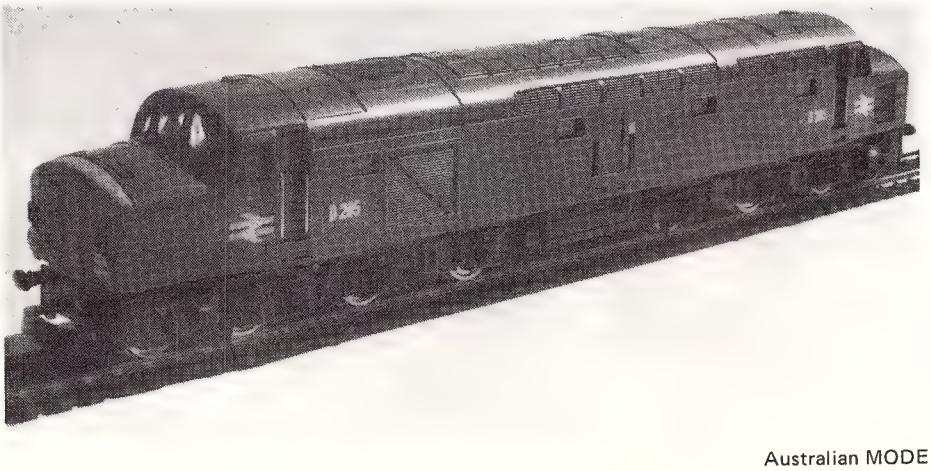
The printing on the sheet is sharp and colour over-run is negative. Brickwork and interior detail appears realistic. Components are labelled in three languages as are the step by step instructions that accompany the sheet. A clear glue is needed and assembly can take up to three nights to complete — mainly due to glue drying time. The kits do not seem to need any additional bracing.

The Bank is a corner building that requires a area of 65 mm by 65 mm. A two storey stucture in variegated, deep brown, brick, it has a grey tile (slate) roof. Stone pillars adorn the front of the building. Interior detail includes plush carpet and bookshelves printed on the walls. Exterior detail includes sills, doors and the main and the hanging sign — this is in three languages and styles (English, French and German).

The Church is a grand structure that would be the highlight of the township. It needs an area of 75 mm by 100 mm, plus a courtyard area. It has grey stone walls and a grey flat roof while the sloped portion of the roof is grey tile. The grey stone steeple is 139 mm high and the floor area of the steeple is mozaic tiles. The lead glass windows are very effective. The lead separation sections are printed on a clear acetate sheet which is assembled in front of a gaily printed window section. The church would suit most prototype settings

The Coal Mine is a multi-unit structure comprising of poppet head, winding head and screening house. An area of 125 mm by 125 mm, plus rail access, is required for this complex. The screening house has high doors to allow rail access through the building, which in turn allows loading of coal hoppers. The poppet head and winding sheels provide for a twin shaft mine. Bolt detail is shown on the poppet head and industrial style windows are provided on acetate sheet. The buildings are red brick which would make it a very lucrative mine by Australian standards as corrugated iron was, and still is, a staple cladding material in the mining industry

Bob Gallagher



MAILBAG

Sir,

I have been contemplating modelling South Australian prototype for some time but did not pursue the idea until I purchased the November/December edition of your magazine from a local newsagent.

Thanks to the articles in that issue on the SAR 930 class diesel loco and having two 44 class Lima diesels on hand, I now have one dummy diesel loco and a two motor unit. Putting the two motors into the one body has certainly improved the pulling power of the Lima locos. Because of the success of this project I intend to convert another unit to the single cab 930 design, when finances permit, the present two locos are to the two cab design.

Thanks for the inspiration.

R. J. Lindner,
Mt. Gambier 5290.

Thank you for your compliments. Many modellers are unaware of the usefulness of magazines until they read all details. Incidentally, the same project applies equally well to the Hornby diesels due to the already prepared openings in their underframes. Ed.

Sir,

You requested some feedback on reviews. I wholeheartedly agree with your comments on Page 33 of AMRM 89.

Actually, I quite often find that the reviewer is by no means hard enough. Unless the magazine complains bitterly, loudly and publicly about the faults in a model the manufacturers will continue to get away with murder

Some of the monstrosities being passed off as Australian models by e.g. Tyco, Bachmann and the Lima 'S' class should be mercilessly condemned by AMRM, whether the models are actually presented for review or not. As far as the local manufacturers are concerned there is no excuse for not knowing the correct dimensions and producing a model that is too long, wide or high.

In order to divorce opinion from facts I suggest that the pertinent facts about a model be presented in a more standard tabulated form. The model's dimensions set out against the prototype length, width, height, door and window positions, bogie type, colour, etc.

The quality of materials used such as plated wheels, metal or plastic gears, noise level and pulling power can be commented on in the normal manner.

When a new model appears on the market I wish to know how good, bad or indifferent it is. The Reviews column is a very important source of information to me.

Perhaps I may suggest that with the future articles on the Victorian 'S' class loco you might include some comments on the Hornby model and the locally produced body kit. Although this might duplicate an earlier review it would have the advantage of all the available data together in the same article.

Has the magazine ever printed a drawing of the Victorian 'B' class engine and commented on the Hornby 'B' class model?

Lastly, I would like to congratulate you on producing this excellent magazine.

W. M. Secker,
Glen Iris 3146.

Sir,

Recently a friend showed me an old builder's plate, one of his prized possessions. It was "Robert Kilbourn & Sons . . . Regent's Park". I used to live in Regent's Park and I know the area quite well, but I have no idea where the factory used to be located.

Could any of your readers enlighten me?

Ted Gray,
North Rocks 2151.

Sir,

I have read in the March/April copy of your magazine that you may have had only three replies to the request for "Readers Award 1977". As one who exerted himself to reply, may I suggest that in future, you have a "tear out" part of some page on which readers can jot down their replies. I am one of the more enthusiastic type, but even so it has taken me over a month to write this letter to you. These days it really is an effort to find paper, pen & envelope etc.

My second suggestion is for a beginners' section. I have recently acquired some back issues of your magazine and note in two different issues that this suggestion of mine is not new. I feel that you are wrong in not taking up the suggestion. Readers of your magazine are often quite new to the hobby and for a time rely entirely on your magazine. Early in my hobby I was given (or inherited) a Marklin railway of rather modest size. In answer to some queries I was referred to a magazine on how to wire a railway. Nowhere in the whole book did it say (or even suggest) that any model railway might not run on DC power. At least two different articles in your magazines have made such a reference in their articles. So you see, handbooks are not the complete answer.

Some questions that could be answered for me in such a section (small to start with) are.

a) What really are those little box like things on the back of European freight cars and some small passenger carriages? I believe they are brake-man attachments but what exactly is their function? Do people (or rather a person) stand in them for long periods of time or what? They look too small for comfort for me.

b) What is a push-pull type of train?

c) I have a vague idea of what styrene is but do not really have any sure ideas. What do you paint it with? How do you cut it? Can you bore holes in it?

d) I bought a carriage the other day and did a good job in putting Marklin couplers on it. However when the train goes over the points the "new" carriage goes straight ahead. I now know that the frogs and its particular wheels do not go together. Exactly why I'm not sure.

e) If required I could fill up your magazine with queries which, although stunning you, are not really so stupid.

All the best for your magazine.

P. T. McNamara
Hamilton

We have just about given up with readers and the Readers' Award, for it appears that Australian modellers are non-participating and as such will fail to gain any benefit. Why should an author go to great lengths to prepare an article when the readership as a whole gives an outward appearance of non interest. The question must eventually be raised as to whether we at AMRM are really wasting our time in the preparation of an Australian magazine.

In years gone by there was a begginers column in AMRM but it was reportively dropped due to a lack of interest by readers. (A familiar story). However, due to popular demand (by one or two readers) we will re-introduce 'Helper-Service' and invite readers to send in questions or problems. (There will be no private or direct answers given).

There has never been any suggestion that handbooks will supply the answer to every problem, for many problems are solved as experience is gained. Experience, however, can only be gained by actually participating and to learn the basics of a subject (allowing one to participate), one can do no worse than read and refer to the PECO or KALMBACH books on the specific subject. To get one of the AMRM staff to prepare an article on a specified subject aimed at the newcommer would be time wasting and superflous for he would only be duplicating the words from one of the popular publications and probably still leave the same gaps that are present in the publications. Readers seem to ignore the fact that AMRM staff comprises of modellers, of average ability, who give their spare time to prepare the magazine for publication. We all have learnt from others and from books and magazines as most other modellers have but if beginners choose not to attend meetings (where many lessons can be learnt) or read books/magazines it seems inconceivable that they in turn should point the finger of blame at someone else.

We at AMRM do our part in making the magazine available ... the readers have the task of buying it and contributing to it ... to fail either will see the demise of the magazine ... so contributions of all kinds is required.

Maybe some informed reader can supply answers to the questions raised above.

Bob Gallagher

Sir,

Could somebody or other write an article on gum trees that look real?? Please!

Concerning your 'REVIEWS' section, I don't think you should compromise your attitude at all, particularly on model accuracy. If a manufacturer sets out to make a model surely it's just as easy to make it right as make it wrong. If it is made inaccurately and they (the manufacturer) don't like being told about it — tough. Let them do it right the first time!

Also, congratulations on a first class magazine and congratulations to all those who contribute the articles.

C. Sullivan
Pt. Noarlunga 5167

Sir,

As a regular reader of AMRM for the past 11 years I would like to indicate my satisfaction with the content and standard of the product reviews published in the magazine. I would also like to express my agreement with your comments in AMRM NEWS, March/April 1978 regarding Reviews.

I believe that where information is readily available on a prototype then comments should be made regarding the accuracy of the model. Generally it is not possible for a purchaser to make a detailed examination of a model for accuracy when purchasing it, especially a kit sealed in plastic.

Now that some manufacturers of Australian prototype kits are selling their products by mail-order the above comments are all the more pertinent. Many modellers would be hesitant about purchasing unseen, by mail order, a kit about which they have no information regarding accuracy or quality, especially from a new and unknown manufacturer.

The reviews should specify inaccuracies in detail as the degree of inaccuracy which is acceptable varies between modellers. Inaccuracies that are unacceptable to the reviewer and some modellers may be acceptable to others and visa versa. Specifying inaccuracies in detail will allow each modeller to make up his or her own mind as to whether or not the model is acceptable to them.

Richard Biggs
Beecroft. 2119

Sir,

The review of this years Chatswood exhibition contained some non-constructive criticism aimed at the North Shore Railway Modellers Association layout.

The running commentary idea was appreciated by many people. As an onlooker I personally agree with the reviewer who says that it was overdone, but don't condemn it out of hand. To some degree, the comments printed in this otherwise excellent magazine are touching on the cheap sensationalism. Let's have constructive criticism, PLEASE.

P. J. Betts
Frenchs Forest

On the charge of 'sensationalism' we plead "not guilty" for there was no deliberate attempt to be sensational, but we do plead "guilty" to the charge of non-constructive critism, for there was a lack of desire to amplify the bad application of a good idea. As the subject has been raised, and as we are at present discussing the public image of railway modellers, we will describe the situation and seek debate from other readers.

The layout under discussion is a point-to-point model representing a branch line. To inform the viewing public a commentator, using a public address system, described the details of operation, including the many little interesting aspects that occur on the railway scene. The task at hand seemed to become boring for the commentator for after a while the commentary resembled the call of a football match, with the exciting highlight being the derailment of the railmotor. Quips like 'I wish they'd get their finger out' did not improve the railway atmosphere.

Needless to say other commentators took the stand and enlightened the public with a colourful description which, when appertaining to the layout, was a credit to the layout, but again, later, the commentary took on a different if not unusual subject for the commentator had become an operator and chatted innately to his associate on a wide range of topics including breakfast, lunch, plans for the evening and so on. Obviously he had forgotten to turn off the microphone which was around his neck. These are the reasons the term 'twaddle' was used to describe the voice over commentary. Surely experienced modellers do not need this magazine to point out where the commentary went wrong.

Bob Gallagher

Sir,

I would like to take the opportunity to express my views on the hobby as I see it to-day, and hope by doing so, gain further knowledge from readers of this magazine.

I first went into serious scale modelling 20 years ago, modelling U.S. prototype, (Santa Fe in particular), due to the shortage of N.S.W. rolling stock. This culminated in having my layout featured in the Dec. '76 issue of Railroad Model Craftsman, something all model railway enthusiasts strive for. May I say here, to all readers, write stories on, and photograph your layouts for AMRM and in so doing, help the magazine to grow and help the hobby in general. There is no greater thrill than to see your work in print.

My above mentioned layout has since been dismantled and sold, thus all-owing me to begin my long awaited N.S.W. model railway system, employing all the ideas learnt over the years. Being an engineman on the N.S.W. system, I naturally have a bias to the system most familiar to me.

Being a reader of AMRM since 1964, I have kept abreast of the great advances made in the field of Australian modelling. To this end, I would like to put forward a few suggestions on rolling stock models. As AMRM has said in previous issues, tell the manufacturers your preferences, as a guidance to what model would be most popular to modellers in general.

The items that I would like to see released would be; (1) The 620 class two-car diesel set. (2) The venerable 43, (much has been promised on this unit, but as yet, I do not know if, or ever it will be released!) I am positive it would be a hit. (3) The 442 "Jumbo", in my opinion, the best main line unit in service on the N.S.W. system. (4) The 47 class branch line unit.

In the area of freight rolling stock, I would like to see the CHS unit coal hopper released, to cover the area of modellers who are into unit train operations.

I fully realise the complications involved in the setting up of a production run of a proposed model, so it is for this reason that I urge modellers to let their preferences be known, so that manufacturers can

confidently gauge the market potential.

As not all of us can invest in brass, the shoestring modeller surely can be catered for with units of the high standard quality of firms such as F.S.M. and Workshop 5, to name two. Their models have made a tremendous contribution to the local scene. It would be to me, a great boost, to see such engines as the unprecurable 60 class garrett released in cast metal kit form. In my opinion, brass engines are being used to rip off the modelling public. Prices are out of porportion to units of similar quality, sold in the US. This is taking into account the currency exchange as well. As far as the second hand market is concerned, prices here are exorbitant as well. Think for a moment, the satisfaction one would get from assembling a 60 class kit, it would be quite an accomplishment for the average modeller.

In closing, I once again urge modellers to let the manufacturers know your preferences, and in that way we, hobbysts all, help one another to make our great pastime go on to bigger and better things.

Ray Cross,
East Maitland. 2323

Sir,

I put forward this contribution for you to use as a "letter to the editor" or litter — as you wish.

Firstly, I would congratulate you on the content and production of the magazine. I am interested mainly in German prototype and thus the general Australian content is of little use — albeit immense interest — but I appreciate the hints of contributors and advertising.

I have been particularly impressed by the recent publication of electrical articles, e.g. the controller and automatic train operation of March/April's issue.

I am reasonably new to the modelling hobby, but I have a keen interest in electronics and like to see the application of electronics to any hobby (to which it is eminently suitable).

I have built a number of projects which are in the Kalmbach book "Practical Electronic Projects for Model Railroaders" by Peter Thorne, and retailed by McBee's, among others. I have been very impressed by the function of these projects and I would recommend to any reader this book, the cost of which is about $4.00. At such a price, it is not worth the trouble of requesting copyright permission to show these circuits to your readers.

What I would like to do, however, to allay the fears of those who know less than I do about electronics, is to emphasise the low cost of building some of these projects.

The simplest circuit shown for an electronic throttle is the "add-on throttle" which is interposed between the normal power pack and the track. It has about ten components, which could be purchased from an electronics retailer — viz. Dick Smith Electronics — for less than seven dollars. To build a throttle which has auto-pulse and inertia from scratch would cost less than $25.00 (including mains transformer). Such a throttle was advertised for over $30 000 in March/April AMRM.

Peter Thorne also illustrates some signalling systems which look good but I have not tried them yet. Also high frequency lighting for coaches and locomotives look promising.

I hope these few words will interest others in the exciting field of electronic railways.

Geoff Neuendorf,
Biloela 4715

Dear Sir,

In the "Comment" section of the May/June issue of AMRM the editor raised a couple of interesting points that are worthy of some discussion. They concern the image of the hobby in relation to a certain television programme and the mention of playing trains.

As far as I am concerned, anyone who wants to "blow up trains" on a layout or even suggest such an insane request, is not a person that the hobby needs. I am quite certain that people that attend model railway exhibitions do not go to see the blowing up of trains or the racing of trains. If people want to blow up their own model railway equipment then that is their prerogative to do so, but please do not ask anyone else to do it.

In reference to "playing trains" I can see nothing wrong with it. If a person wishes to run anything on a layout, whether it be a U 105 hauling the Indian Pacific or whatever, then that is alright by me. Afterall, who are we to judge other people's layouts? Of course, an exhibition is somewhat different in that the exhibit should portray what can be achieved by the hobby. I know that the rivet-counter fraternity might be quite ruffled at this stage, but most people just want to find out various aspects of the hobby and see the trains. The fact that the layout is prototypical is just another aspect of the hobby, a standard that is often too high for the average visitor to recreate. Therefore, I can see that playing trains is also just another facet of the hobby; one that you can obtain great enjoyment and fellowship out of.

If there had to be a choice between playing trains and having fun, or being bogged down in a prototypical dilemma that involves the accuracy to the nth degree, then I would rather play trains.

How about you?

Bradley Hinton,
Wahroonga, NSW. 2076

Bradley Hinton has raised a few good points for discussion and hopefully other readers will voice their opinion; however one must question the aspect of blowing up trains. I am positive that any modeller who geared himself to build a layout that crashed and blew up trains would draw the crowds at exhibition, for many people seek and enjoy a little massocism and, unfortunately, they tend to associate such insane activities to railways, especially model railways and those who operate or are interested in them. If we are to believe television and films anyone interested in model trains has to be an eccentric, an idiot, a half witted rapist, a mass murderer or some other weirdo on the wrong side of the law. I have yet to see any public illustration that model railways can be a completely absorbing and healthy hobby, giving full satisfaction to many.

No doubt this rather poor appearance is given by a small part of the hobby that stays for only a short period, for they become bored with the high speed chase or the tail railways and leave the hobby after giving a false impression of model railways. Most, if not all of us go through the 'playing trains' stage and many stay not knowing the enjoyment of more correct operation. I am not suggesting that a computer should be necessary to guide or control a layout, but I have personally found the operation, geared more like full sized trains, gives me more satisfaction than simply running trains, for it seems to give the model railway a purpose.

Naturally, to each his own, ... every one is different and many achieve enjoyment from different aspects of the hobby... however if this hobby is to grow in strength, which will give all of us a better deal, we must show that model railways is a hobby for mature people and not just a toy for children to play with and throw away.

Bob Gallagher.

Sir,

There are times when it is difficult to reply to criticsm, knowing the problem of trying to please everyone

Australians generally are a lot of knockers; look how the sports hero of one day is kicked in the teeth next time if he fails to come up to expectations. The same is true apparently of Model Railway exhibitions.

The situation at the Lower Town Hall has become increasingly difficult each year, particularly in access, parking and co-operation from the council. So, for a new look we are going to a large, bright and clean pavilion at the R.A.S. Showground this year, with plenty of access and parking

Amongst points raised in letters in AMRM re last exhibition was an increase in admission charges To this I can only say, if the persons were regulars they must have got in free in 1976, as the rates WERE NOT changed last year, even though our rental was the same for a lesser area

The organisers do try and put on the best display possible at all times and give value for money

That 'almighty dollar' is important, up to paying at least the considerable expense involved in staging the exhibition, in rent and advertising, plus a contribution to all non commercial exhibitors to help defray their costs.

It was not till fairly late last year that we found that space was too limited and at no time were we advised by the council of what was taking place

This necessitated (at a very late stage) cancelling several large layouts to fit in smaller displays into the shape of what was left of the hall.

The proportion of commercial-to-operating layouts was unbalanced but, contrary to what some modellers think, the commercial displays are popular with the Public, who generally do not know where to see such a wide range of model railway equipment. Much as the AMRM would like, not all of them are readers or even are aware of such a magazine, so would not know were to go.

In any case how many of the Hobby Shops handle the vast array of equipment available and, also, no one is forced to buy a thing, but just look or talk.

There were eight new layouts last year, yet another comment one hears, 'its the same each year', or does one N Gauge or a H.O. layout look the same as any other if the same type of equipment is used on them, regardless of the scenic effects. There are plenty of so called modellers who are biased to anything other than their own pet interest.

To those who decry lack of modelling contests at Sydney, have these same persons ever been to these shows as mentioned and observed how many of the Public show much interest in static displays of competition entries? There have been occassions display cases with excellent hand made equipment have been on view in Sydney but have not received the interest worthy of them.

Generally, the Public want to see trains operating, with as much variety as possible and the better the display, the more they expect from it.

Frankly, from experience, I would say if any exhibition was put on and depended just on 'modellers' for support it would be a flop.

How many of them bother to reply to an appeal from the Editor from time to time on various topics or an opinion pole???

P.R.Os: A club layout could have a PRO, but some are only one or two man shows and that point becomes difficult. However, I have always found that if a person wants to know something they will ask and then receive all the information they require; tongues have not gone out of fashion yet.

There has also been many gripes over the years about meals. It is useless to compare the Sydney Exhibition with some of the smaller suburban shows, where there may be about a dozen at a meal. For some years there have been an average of 60 a meal at Sydney and that is more than enough for the precious few women who have battled along in not the best of conditions to cope and been abused by some disgruntled persons who consider that, because they are on some stand, they should be fed. Judging by the number of exhibitors passes issued we would need nearly all the hall just for catering.

But that problem won't exist this year at the R.A.S. because there are no kitchen facilities in the pavilions, so everyone will have to do their own thing for meals. But we hope to see you all there just the same.

Norman Read,
Australian Model Railway
Association (N.S.W. Branch).

AMRM NEWS.

Continued from page 36.

Despite the English residence of Workshop 5 Models, it is pleasing to report that they will continue to manufacture kits for the Australian market, which will be available from their distributors, T.C. Rail Models.

Just Humans

For some unknown reason some readers have a pre-conceived idea that AMRM staff and authors are of a special breed and as such possess special knowledge and ability. Unfortunately (or more realistically, fortunately) this is not the case, for we at AMRM are just average modellers who are a little more enthusiastic (with Australian model train) than most, and have a commitment to ensure that Australian modellers have a locally produced magazine to read and utilize for the exchange of ideas.

The reason for raising this subject is that some readers assume that we have all the answers to all the subjects, and this is simply not the case. Sure we have guys who specialise in subjects, and many have joined AMRM staff to lend their expertise, but most staff are in some way or other associated or interested in the local scene. To attain answers on subjects foreign to us, we — like any other reader — have to look up the subject in reference books or magazines. So the next time you aks a question please do not get nasty when we cannot immediately supply an answer.

Identification

As many readers are aware a number of the Sydney based AMRM staff are members of the Model Workshops and usually attend some exhibitions with the Menangle exhibition layout. One of the many pleasures of exhibiting is the meeting of old and new friends from within and outside the hobby. In recent times some (old and new?) acquaintances have become annoyed when we have failed to put a name to their face. One of the problems with being on the magazine staff, or for that matter in any similar position of responsibility, is that you come in contact with many people, some only fleetingly and often occasionally, and while we remember names, we often do not remember the face that goes with it. What we are requesting is for one and all to identify themselves with either a name tag or upon striking up conversation "Gooday, I'm Joe Blow, remember ...". Once the introduction is over conversation can and will flow more warmly and exhibitions are for all modellers to meet and swap ideas and yarns.

AMRM hard to obtain?

SCR Publications, the publisher of AMRM, suffers the same problems as most businesses in that it must make ends meets financially. To accomplish this, from time to time, the price of the magazine is increased and the cost of advertising is raised, as has recently happened. Regrettably this has not been sufficient and further restrictions will soon apply which will restrict, in some areas, the availability of AMRM.

To commence with SCR Publications is now insisting upon being paid for magazines and advertising, and those not complying with our need to be paid will no longer receive the magazine or our services. A further move is the application of a minimum order for shops when purchasing the magazine and lastly there are some outlets that are not prepared to stock sufficient quantities of the magazine to fully supply their potential customers.

We are suggesting that readers place a firm order with their local supplier, failing this to purchase the magazine by subscription. Only by these means can we guarantee that you will maintain a consistant continuity, for some issues sell so fast that even our reserve stock is used up in a few months. Only be receiving advance orders from outlets can we

Continued on page 44.

PASSENGER OPERATION — 2

As foreshadowed in the September/October 1977 issue of AMRM this series of articles cover the many facets of passenger train operation, most of which can be adapted for model train operation. This article covers operation of a NSWPTC passenger train in 1977.

The COOMA MAIL in 1977

Normally the Cooma Mail is a rather short train travelling from Sydney to Cooma handling all mail and parcels en route to the many stations. When the South Mail does not run, the Cooma Mail hauls the beer vans to Goulburn. The motive power from Sydney is usually a main line unit (44, 42, 442) but, if the load is light, a branch line 48 can be observed at the head of the train. At Goulburn the main line units are detached and replaced with branch line units. Usually a single 48 class will haul the load to Cooma but, as the load increases, locomotive balancing requires double headed 48 class head the Cooma Mail. The normal summertime consist for the Cooma Mail does not accurately follow the winter consist, for the specific electrically heated cars are not needed.

The interesting aspect of the Cooma Mail is during the winter months, when the lure of the snow-fields increases loading of the train. Train heating is by electric power (120 volts) being supplied by the locomotive, the interesting aspect being that only a small number of units (locomotives) can supply the electric power, so advance locomotive planning is required. Mixups do, however, occur and a 442 class has headed the mail out of Sydney with a 48 class attached, the latter only to supply the electric power for heating.

Sleeping cars are not usually part of the consist but it is the practise to attach sleeping accommodation on the Friday evening train ex Sydney during the snow season, which officially is 1st July to 1st October. The sleeping car returns on the Saturday evening train ex Cooma.

The consist of the train can range from:-

Sunday . . . . LHO — XCM — XFS (Note the X coding for electric heating). All cars are conveyed to Cooma.

Tuesday & Thursday . . . . JLX — JLX — MLV — LHO — XCM — XFS. The JLX vans are loaded with Tooth's beer (in kegs), the MLV with parcels. The 3 vans are detached at Queanbeyan, the JLXs bound for the TOOTH'S siding and the MLV for Canberra. The remainder of the consist continues to Cooma. In days gone by the Cooma Mail supplied passengers accommodation for Canberra, but then that is another story.

Friday . . . . (Mid winter) MLV — MHO — TBC — FS — TFX — FR — XAM — XAM — XCM — XFS — 44 class.

In most cases .two vans loaded with TOOTH'S beer journey to Queanbeyan each night of the working week (5 days). Normally the Cooma Mail have the vans included in the consist, being placed on the end of the train for easy removal at Queanbeyan, but when the loading for the Cooma Mail is too heavy the 'grog' vans are attached to the South Mail, being detached at Goulburn where they are conveyed to Queanbeyan by the early morning goods, which is headed by a 48 class and has a consist of mixed goods wagons.

Of course the above listing is the basic programme and exceptions do occur. On the 30-6-77 the consist was 44 class — XFS — XCM — SBX — SFX — MHO — KLY — JLX — MLV. The KLY carried parcels for Cooma, the JLX parcels for Nimmitabel and the MLV carried Tarago bound parcels. Note that the 'grog' vans are missing, for they were added to the South Mail, as was the Canberra parcels van.

As indicated the electric heated cars are marshalled directly behind the locomotive which supplies the power. The X prefix on the coaches indicates that the unit is fitted with electric heating. The only physical difference between the cars is the evidence of power conduits which are attached along the solebar of the coach. In some instances a large connection box attached to the conduits help mar the appearance of the coach.

1977 presented a rather unusual occurrance, which could well see a change in the future consist of the Cooma Mail. Due to a number of circumstances air conditioned stainless steel coaches and power van were included in the consist, along with air conditioned sitting cars. On the 5th August 1977 (Friday) the consist of the ex Sydney Cooma Mail was:- VP — HGM — FAM — NAM — NAM — ODS — SDS — FH — MHO — XFS — XBS — XFS — 4431. 4431 is fitted to supply electrical heating. The load was 532 ton where a maximum load is 600 ton. Note that the train is in two sections, one electrically heated (directly behind the locomotive and the other air conditioned, the power being supplied from the power van where 415 volts is the nominal supply.

The VP is a Victorian Railways van, the HGM an Indian Pacific power van, the FAM a Gold Coast Motor Rail sleeping car, NAM a Southern Aurora sleeping car and the FH — ODS — SDS NSWPTC air conditioned sitting cars. This latter train would make an interesting model for many cars are, have been, or are to be, on the open market. The Lima 44 would haul the consist as long as it had been modified with twin power bogies.

Most variations of the Cooma Mail can be adopted to model form and, as indicated, many units of rolling stock are available in one form or other. The exchange of locomotive power at Goulburn as well as the reason for the change can be a useful aspect, for the Unions have placed a ban on mailine units on the branch until the trackbed has been upgraded. Bear in mind that this mail train is one of the few that stops at all stations delivering mail, parcels and passengers.

Acknowledgement for assistance in the compilation of these notes to Graham Ahern, Leon Oberg, Trevour Moore and various issues of NSW DIGEST published by ARHS.

Bob Gallagher.

AMRM NEWS.

Continued from page 43.

predictably order sufficient quantities from the printer, for there is no second chance.

Beginners

From recent correspondence it is obvious that the problems with beginners or newcomers to the hobby is deeper than we at first believed. We have been able to correspond with some and a few of the problems can be solved easily. To begin with AMRM will reintroduce 'Helper Service', providing reader interst is sufficient to keep a flow of questions coming in

Some of the problems can however be solved if the enquiring parties bothered to read and comprehend the material available to them. There is a claim that basic scratch building articles have not been published when there has been at least one in each issue over the last few years. Just because the article describes the construction/conversion of a model that is uninteresting to the reader does not mean that the method by which the construction/conversion was accomplished cannot be applied to build your favourite model. Most modelling methods can be applied to numerous models. There are many problems facing the beginner/newcomer that we all recognise, but there are answers and most are in the available magazines and books on the subject. If, after searching for an answer, readers still cannot find a satisfactory result, write the problem down and send it to AMRM. We will publish the problem in hope that one of our readers may have the answer.

V.R. Wagon Newsletter.

One of the least documented subjects on the railway scene appears to be general goods (or freight) wagons. This point is emphasised every time an AMRM researcher digs for details on wagons. Some of the ARHS current news magazines (SAR RECORDER, NSW DIGEST, etc) occasionally cover the introduction or withdrawal of a class, but rarely do specific details on variations or conversions (the tit bits modellers seek) ever attain publication. We have, however, come across RAILSHEET, published by Peter J. Vincent of 2/17 Alfred Street, Prahran, 3181, which is a single sheet of foolscap size, published monthly. The coverage takes in details and sightings of vehicles including goods and some suburban passenger stock. Naturally the scope is restricted to VicRail, but this is no drawback. Some of the detail mentioned is so detailed that a model could be built from the information. Availability is restricted to subscriptions based on a rate of $4 for 12 issues. Any modeller wishing to subscribe should contact the publisher, by mail.

The advertising deadline for the September/ October 1978 issue is the 25.8.78. Please be early.

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PRIVATE: 15 words for $1.00, extra words 5 cents each. Minimum $1.50 per insertion. Advance or continuous insertions not accepted.
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RIVAROSSI 16 wheel Lincon funeral car, also Berg's Tin Hare and trailer. Savery, P.O. Box 25, Dee Why, NSW 2099.

WANTED Rivarossi and Hamo trams and trailers, condition unimportant. Also plans and publications on European trams. J.B. Aspinall, Officers Mess, RAAF Base, Fairbairn, ACT 2600. Ph (062) 65 2540 business hours.

WANTED gauge 0 Hornby 4-4-0 loco or Bassett Lowke 4-4-0, Electric or clockwork or Lionel. Good prices paid. P. Frost, 20 Frances Avenue, Para Hills, South Australia 5096.

ONE (1) Triang Hornby steam engine 'Battle of Britain' class "Winston Churchill". Must be in excellent condition. Details to the above. Phone (02) 869 1237 or write 16/723 Blaxland Rd, Epping, 2121.

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COPY of Locomotives of the Commonwealth Railways, published by ARHS South Australian Division. R. Price 135 Jannali Ave, Sutherland. 2232. Ph (02) 521 8936.

H0n2½ and N junk: worn or damaged locos and wagons. Roco, Minitrains, Eggerbahn etc. Write E. Tonurist, P.O. Box 91, Springwood, NSW 2777 or ring (047) 51 3587 after 8 pm.

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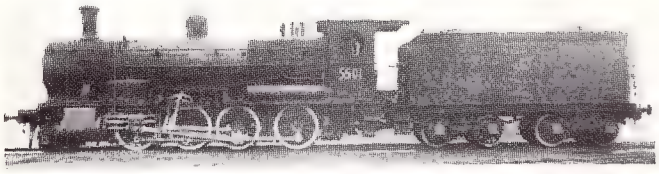
H0n2½ equipment principally Liliput rebuilt as Sandy River 2 foot gauge but with inside frame locos. Parie No. 18, two Baldwin Prairie tanks, one Mikado (on Sekesui D51 chassis). Four unrebuilt 0-6-2Ts, one chassis, two baggage, 2 coach, 4 boxcar, caboose 553, 44 feet Peco track, 2 Peco wrad turnouts, 17 Liliput turnouts, 13 pair bogies with wheels, 8 pair with couplers only. 8 motors, plenty of loco spares,

Continued on page 54

FSM



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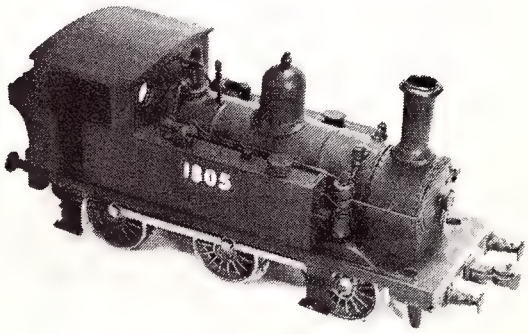

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We welcome any suggestions directed at improving our Kits. If you have a problem, let us know about it; we can possibly remedy it in future work.

With the D55 launched, the next step is to rework the Z25, with the motor in the loco, and then commence another new kit. Let us know what your preference is, but Steam only.

Regards delivery delays, we feel we have overcome most problems and hope to give better service in future. Short of employing people we cannot see any way of speeding this up and that cost would have to be passed on to the customer. Our policy in working the way we do is to keep prices down. We can see no other way of competing with the inflated wage structure here, compared with other countries.

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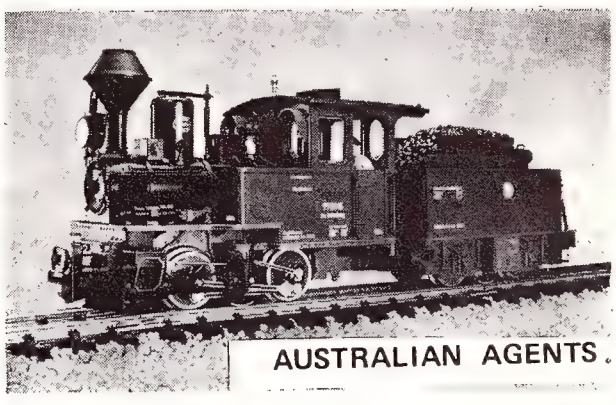

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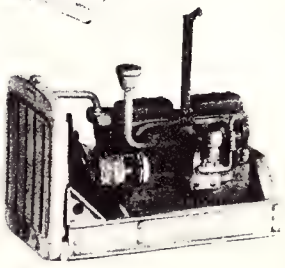

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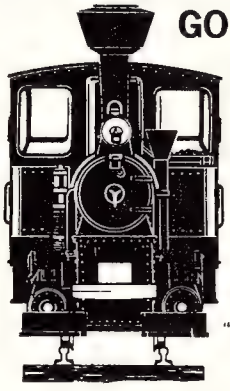

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What an amazing variety of passenger cars there are to be found on the world's railways. Varying from country to country and from railway to railway, carriages have grown from the derivitive of the stage coach in the early days to the specialised cars of to-day which carry the commuters in their thousands each day and carry the long distance passenger across country and continent in the lap of luxury by day and by night.

Railways have found, particularly in this the post steam era, that it is better to provide facilities for eating on long distance trains rather than in the railway refreshment rooms of other days. These facilities depend on the nature of the train, the length of the journey and the time of day through which the major portion of the journey will take place.

Cross continent expresses such as the "Indian Pacific" have dining cars giving services to rival those of a first class restaurant. Trains on shorter services such as the "Intercapital Daylight" and the "Spirit of Progress" on the Sydney-Melbourne service have buffet cars which provide a comprehensive meal and refreshment service. Trains such as the Albury-Melbourne services are equipped with mini-buffets which provide a somewhat limited service to passengers in the way of light meals and refreshments. These and other trains also have a through train tray service which provides passengers with tea and other refreshment at their seats.

Where a large part of a train's journey takes place during the hours of darkness the train will have in its consist several sleeping cars. Many modern sleeping cars are divided up into several small compartments known as "roomettes" for single occupation or as "twinettes" for double occupation. Some trains also have units for occupation by larger groups. These units are fully contained with their own toilet and washing facilities and some are even fitted with showers. Comfortable seats in use by day convert into good beds by night.

Sitting in the same seat for many hours can become rather boring. To help relieve the boredom of long distance travel many trains have club cars and observation coaches where passengers can gather in a relaxed social atmosphere as they have a drink or two and watch the passing scene or chat with their fellows.

The planning behind a model railway should take into consideration the use of trains with dining facilities and sleeping facilities in their consist.

The layout if a point to point or out and back system should have some hidden area where the train can be held out of sight while it traverses "the rest of the system" before it returns to the station. A continuous run free of all stations is also a good way in which a long distance train can clock up "mileage" before it reaches its destination.

From the world's model railway manufacturers has come a vast array of model passenger cars. Unfortunately with the exceptions of some limited production and kits there is little that is Australian in its outline. Those who are not rivet counters can by repainting some of those items available in American and other outlines obtain "near enough" replicas of Australian types.

Let us look at some of the types available in the AMC distributed range:

RIVAROSSI N GAUGE

American Standard Passenger Cars

These models are complete with inner fittings and have six-wheeled bogies. If desired they can be lit with lighting kit Number 9820. The cars are 155mm in length.

DINING CARS -- -- -- -- -- -- -- -- -- -- -- -- Each $6.25
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9540 Pennsylvania 9548 The Milwaukee Road
9573 Southern

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9541 Santa Fe 9542 Baltimore & Ohio
9543 Pennsylvania 9547 The Milwaukee Road
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American Flush Sided Passenger Cars

These models have fitted interiors, 4-wheeled bogies and are 160mm long.

SLEEPING CARS -- -- -- -- -- -- -- -- -- -- -- Each $6.25
9503 Union Pacific 9504 Chicago & North
9505 Pennsylvania Western

TAIL CARS (Observation) -- -- -- -- -- -- -- -- -- Each $6.75
9506 Union Pacific 9507 Chicago & North
9508 Pennsylvania Wetsern

American Fluted Side Passenger Cars

Have interior fittings and 4-wheeled bogies these cars are 160mm long

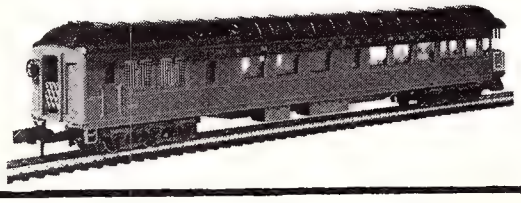
OBSERVATION CARS -- -- -- -- -- -- -- -- -- -- Each $6.75
9515 Santa Fe 9516 Penn Central
9517 Southern Pacific

Continental Passenger Cars

9530 Latest type sleeping car of the C.I.W.L. with internal fittings and detailed lettering. The model is 168mm long. -- -- -- -- -- -- -- -- -- Each $5.50

9531 German Sleeping Car of the D. S. G. Internally fitted with detailed exterior. Length of model 168mm -- -- -- -- -- -- -- -- -- Each $6.75

9521 German Buffet Car in two colours - has buffet section at one end and 2nd class passenger accommodation in the other. Fitted the model is 168mm long. -- -- -- -- -- -- -- -- -- Each $6.75



RIVAROSSI HO/OO PASSENGER CARS

American Single Coaches

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2718 Santa Fe 2725 Pennsylvania

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2726 Pennsylvania 2732 Santa Fe

TAIL CARS (Observation Cars) with internal fittings. These cars are 310mm long -- -- -- -- -- $10.50
2747 Pennsylvania

ROOMETTE with internal fittings - 310mm long - -- -- $ 9.95
2746 Pennsylvania 2870 Illinois Central- $10.50
2765 Northern Pacific

Continental Single Coaches

2513 International P type Sleeper in stainless steel with single cabins - length 278mm - -- -- -- -- $14.50

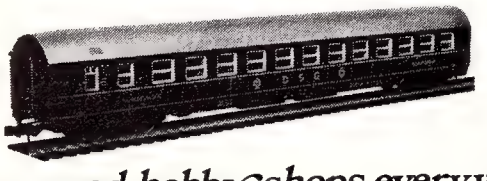
2517 International C.I.W.L. Sleeper in blue complete with interior fittings - length 300mm -- -- -- $14.50

2921 German Federal Railways Buffet/2nd Class car in two colours - length 300mm - -- -- -- -- -- -- $11.95

2926 Sleeper of the Deutsches Speisewagen & Schlafwagen Gesellschaft in the new modern colours -- -- -- $12.50

The carriages listed in this and the adjoining column are but part of the wider range of American and Continental coaches available from the Rivarossi range. The range is continually being extended and there are several new cars in the categories listed above which will become available over the next few months.

For furthur details see AMC Price Lists Series "R".



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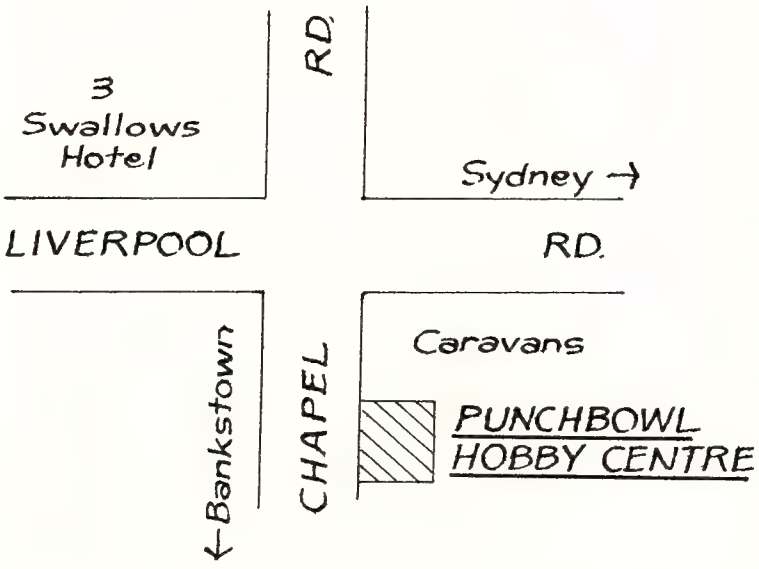

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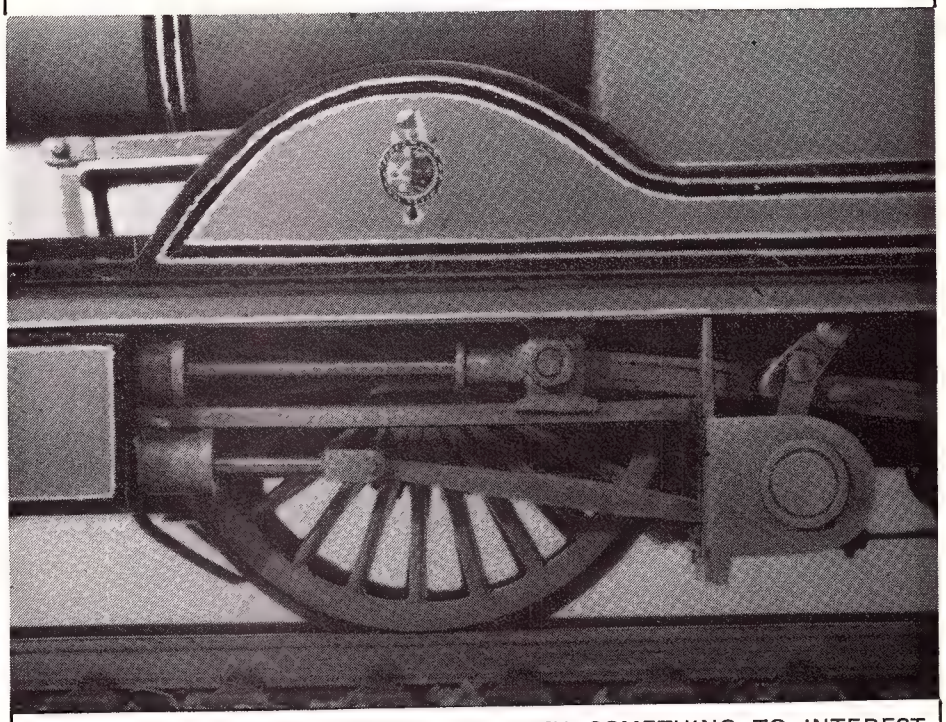

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M.O.S. customers stamped self addressed envelope for list of 200 negatives.

RAILKITS AUSTRALIA

As many readers are now aware Doug and Gill Bocking are now resident in the United Kingdom, from whence the Workshop 5 Models CASTINGS FOR OUR RAILKITS AUSTRALIA range of kits will come.

We are hopeful that the first shipment of cast parts from Workshop 5 Models will arrive at about the time this advertisement appears in print. These parts will be for "R" series cars and will be fully allocated to fulfil reservations and back orders. Shipments are expected to be somewhat limited for a few months.

Future models by RAILKITS AUSTRALIA will be produced to reservation only, as this will reduce costs to our customers while ensuring that nobody misses out on kits that they require, provided that the appropriate reservation has been received by us.

Reservations are currently open for the balance of the "R" cars and the ACM, FS/BS and BOB set cars. For further details please forward S.S.A.E. Our "R" car information sheet is still available at 70c posted.

As at the time of writing — late June — we are not planning to exhibit at the October Exhibition because we are not expecting new models or stocks free of reservation to sell over the counter. We anticipate returning to the exhibition circuit in 1979, when we plan to introduce new models.

Packaged and distributed by:-

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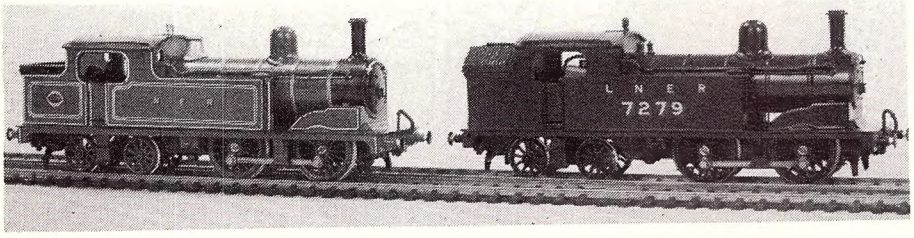

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MARKET PLACE.

Continued from page 44

rods, motion, drive wheels, gears, also Steam Railcar and Goose, RGS both with Eggerbahn motors. Sell as one lot. $300 ono. R. Murphy, Mount Newman Mining, P.O. Box 231, Port Headland, W.A. 6721. Ph 73 8106 or 73 1496 (res).

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WESTSIDE B&O 2-10-2 $250; United S.R. Ps4 4-6-2 $225; Tenshodo GN F9A & B $100; Rivarossi Big Boy $80; Akane B&O 2-8-8-4 tender $30; NYC Niagara Tender (mint) $50; Balboa Rio Grande baggage $25; Brass wood side caboose $25; plus misc. brass items. All locos painted exc condition. Phone B. Freeman (02) 290 4920 office hours.

C38 Pacific brass, first run, boxed. Lima 44 with two Indian Pacific coaches. NSWGR C 30 tank scratch built to good standard in brass, Romford wheels (NS) and motor. Offers. Will separate. Changing to 0 gauge. Ph (09) 397 5445. Pat Keelty, 209 Chevin Rd, Rolyston WA.

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N GAUGE locos, brand new, unused, Kadees fitted: Rivarossi UP E8 $20; Con Cor UP Gas Turbine & tender $50; Arnold SF FA1 $20; or the three for $80. Some Kadee box cars also. R. Verdich, 118 Marine Drive, Oatley 2223. Ph (02) 230 0277 x 134 (Bus. Hours)

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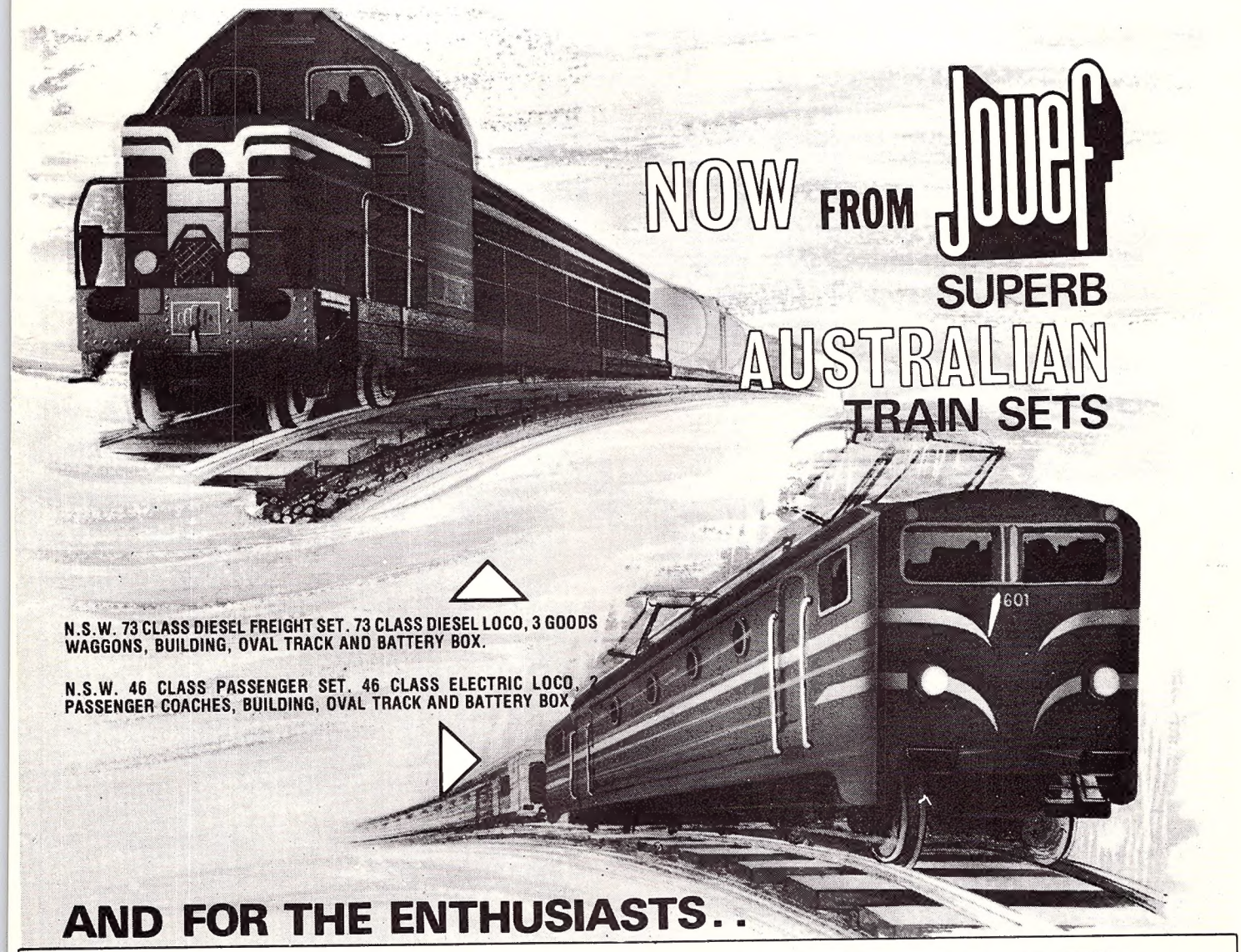
EUROPEAN 2 rail H0 private collection, over 40 locos and 60 pieces passenger rollingstock plus 40 goods wagons. All absolute mint condition in original boxes — most never used including RoCo, Fleischmann, Liliput, etc. Send SAE to TRAINS, PO Box 82 Malvern 3144, Victoria for list of this superb private collection.



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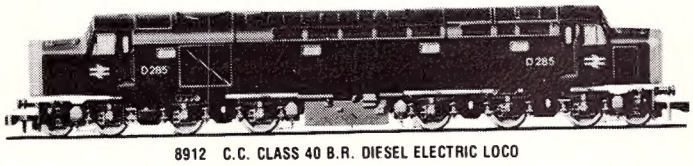
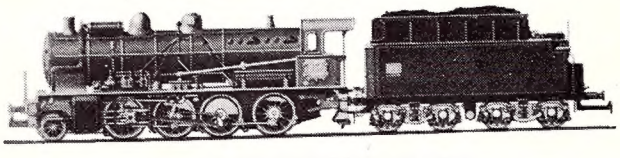
N.S.W. 46 CLASS PASSENGER SET. 46 CLASS ELECTRIC LOCO, 2 PASSENGER COACHES, BUILDING, OVAL TRACK AND BATTERY BOX.

AND FOR THE ENTHUSIASTS..

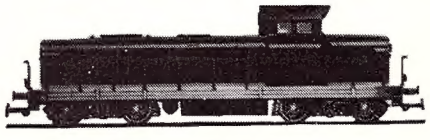


8912 C.C. CLASS 40 B.R. DIESEL ELECTRIC LOCO



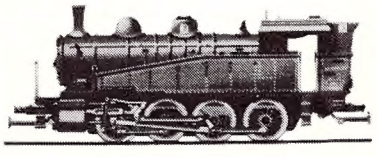
8283 140C CONSOLIDATION LOCO AND TENDER

5751 1st CLASS B.R. MARK III PASSENGER COACH



8531 B.B. DIESEL ELECTRIC LOCO

8256 231K PACIFIC LOCO AND TENDER



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FLEXIBLE TRACKS - 906mm (1 yard) long

SL-100X Wood Grained Sleepers & Nickel Silver Rail -------	2.25
SL-100S Wood Grained Sleepers & Steel Rails -------------	1.95
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SL-102S Concrete Sleepers & Steel Rails -------------	1.95
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SL-85X Catch Point - left hand ---	3.75
SL-86X Curved Point - right hand -	6.50
SL-87X Curved Point - left hand --	6.50
SL-88X 5' Radius Point - r/hand --	6.50
SL-89X 5' Radius Point - l/hand --	6.50
SL-90X Double Slip -------------	20.95
SL-91X 2' Radius Point - r/hand --	5.50
SL-92X 2' Radius Point - l/hand --	5.50
SL-93X Short Crossing ----------	5.50
SL-94X Long Crossing ----------	5.95
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SL-96X 3' Radius Point - l/hand --	5.95
SL-97X Short 'Y' Point ----------	5.50
SL-98X Long 'Y' Point ----------	5.95

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SL-686 Curved Point - rt/hand ----	6.50
SL-687 Curved Point p lt/hand ----	6.50
SL-688 5' Radius Point - r/hand --	6.50
SL-689 5' Radius Point - l/hand --	6.50
SL-691 2' Radius Point - r/hand --	5.50
SL-692 2' Radius Point - l/hand --	5.50
SL-695 3' Radius Point - r/hand --	5.95
SL-696 3' Radius Point - l/hand --	5.95
SL-697 Short 'Y' Point ----------	5.50
SL-698 Long 'Y' Point ----------	5.95

Prices in this advertisement are recommended prices only and there is no obligation to comply with the recommendation.

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COMING SHORTLY:
HO/OO Single and Double Tunnel Mouths and Bridge Sides
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0-16.5 Track and Slate Wagons

STREAMLINE

N

FLEXIBLE TRACK - 906mm long (1 yard)

SL-300X Wood grained sleepers & nickel silver rail -------	2.00
SL-300S Wood grained sleepers & steel rails -------------	1.25
SL-302X Concrete Sleepers & nickel silver rail -------	2.00
SL-302S Concrete Sleepers & steel rails -------------	1.25

POINTS (Wood grained sleepers and nickel silver rail)

SL-384X Catch Point - right hand --	3.00
SL-385X Catch Point - left hand ---	3.00
SL-386X Curved Point - right hand -	5.75
SL-387X Curved Point - left hand --	5.75
SL-386X 3' Radius Point - r/hand --	5.75
SL-387X 3' Radius Point - l/hand --	5.75
SL-391X 18" Radius Point - r/hand -	5.25
SL-392X 18" Radius Point - l/hand -	5.25
SL-394X Long Crossing ----------	5.25
SL-397X Long 'Y' Point ----------	5.25

O

FLEXIBLE TRACK - 906mm (1 yard)

SL-700X Wood grained sleepers & nickel silver rail -------	3.75

POINTS & ACCESSORIES

SL-791X Point, r/hand 1828mm rad.-	24.50
SL-792X Point, l/hand 1828mm rad.-	24.50
SL-794X Crossing ----------	-.--
SL-797X 'Y' Point, 1828mm radius -	24.50
SL-784X Catch Point, right hand --	12.75
SL-785X Catch Point, left hand ---	12.75
SL-701 Point Sleepers (20) ------	1.75
SL-702 Running Rail Chairs (100)	2.00
SL-703 Slide Rail Chairs (50) ---	1.35
SL-707 Frog Units Each --------	1.35
SL-708 Point Blades & Brackets --	2.00
SL-709 Switch Kit for Electrofrog	1.50

(Use HO/OO rail joiners SL-10X metal SL-11 insulated)

OO-9

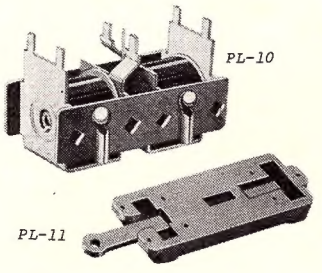
FLEXIBLE TRACK - 457mm (18 inches) long

SL-400X Wood grained sleepers & nickel silver rail -------	1.15

POINTS & ACCESSORIES

SL-491X Right Hand Point ---------	4.95
SL-492X Left Hand Point ----------	4.95

(Use N gauge rail joiners SL-310X metal, SL-311 insulated)



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PECO "LECTRICS" - Items for use with all gauges.

PL-10 Point Motor ----------	2.75
PL-11 Adaptor Base for PL-10 -----	.75
PL-16 Point Operating Switch -----	1.95
PL-17 Probe for Point Operation ---	1.50
PL-18 Studs & Tag Washers - Pk of 25	1.50
PL-20 On/Off Isolating Switch ----	1.35
PL-21 Double Press Switch --------	.90
PL-40 Wheel Cleaning Brush,Scraper	3.50
PL-41 Track Cleaning Block -------	1.15

Peco Flexible Fencing System

HO/OO Fencing pack (approx 42in) LK-45
HO/OO Gates, Stiles and Wicket Gate LK-46
N scale Fencing pack (approx 38⅜in) NB-45
N Gates, Stiles and Wicket Gate NB-46

LK-45 -- $1.50 LK-46 -- $1.50
NB-45 -- $1.25 NB-46 -- $1.35

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